THE LITERARY DIGEST

(Title registered in U. S. Patent Office and in Foreign Countries)

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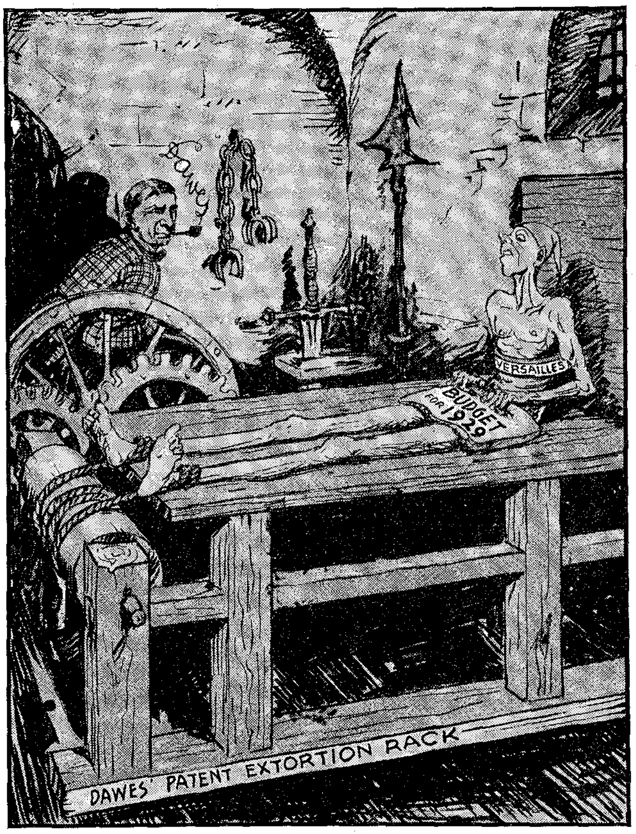
TOPICS ▾ OF ▾ THE ▾ DAY

(This title registered in U. S. Patent Office)

TO TELL GERMANY HOW MUCH SHE MUST PAY

THAT FAMOUS CHAIN of things and events, vouched for by Mother Goose, that linked "the maiden all forlorn" with "the cat that caught the rat that ate the corn that lay in the house that Jack built," seems to be paralleled by the list of difficulties that obstruct the way to a final settlement of the German reparations problem. Altho nobody, apparently, now expects Germany to pay the $33,000,000,000 originally fixt as the sum of her reparations indebtednesses, and altho Germany and her Allied creditors have agreed to lay before a new international commission of experts the question of revising her bill, correspondents and editorial observers agree that this problem of finally liquidating the war is still far from solution. "In the best case, it will be a long, difficult struggle," says Dr. Gustav Stalper in a Consolidated Press dispatch from Berlin; Gerville Reache, in his Paris correspondence, indicates that France is in no hurry for a revision of the Dawes plan which would relieve Germany; and in a London dispatch to the Chicago *Daily News*, Constantine Brown reports that:



GERMANY'S VIEW OF IT

MICHEL'S BED OF PAIN (The income for Germany for 1929 is 600 million marks less than this year, but the reparations payments are more): "It is strange that my cover gets smaller and smaller, but my legs longer and thinner." —*Kladderadatsch* (Berlin).

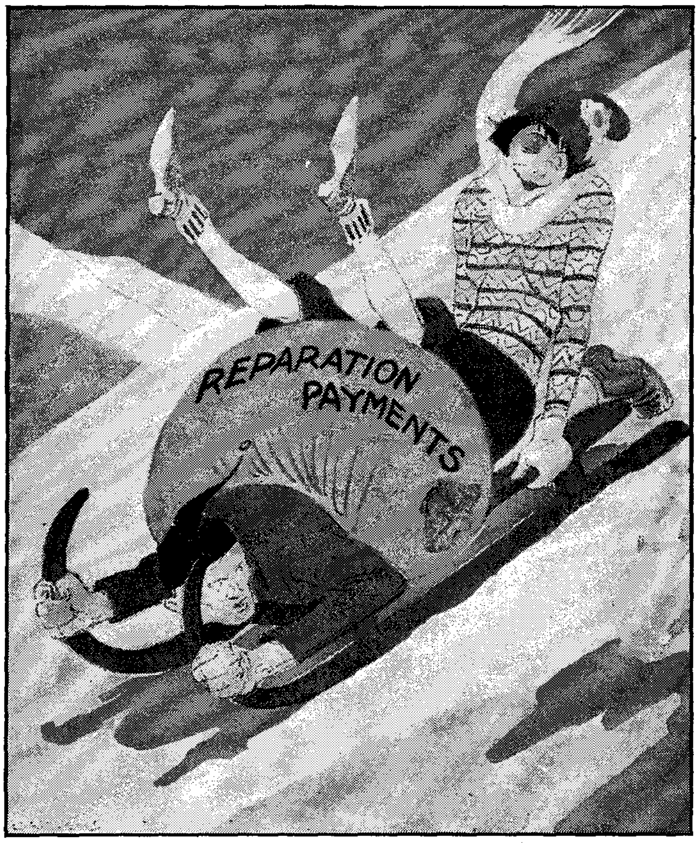
"The British are less anxious than any other nation to discuss alteration of the Dawes plan. They are quite satisfied that Germany will be able to pay the annuities for a number of years, and the portion due Great Britain practically covers the annuities this country must pay the United States. Consequently a revision which means a reduction of the German debt is not regarded as urgent."

In the United States, it will be remembered, the reiterated position of the Administration is that we do not admit any connection between the collection of reparations from Germany and the payment of the European war debts to us. And the situation is further complicated, according to a Berlin dispatch, by a belief in German political circles that "the proposed change in the Dawes plan is being forced on the Allies because they are convinced that the transfer problem will become acute within a year, or at the most two years, and will break down the present reparations system." If Germany is able to wait until the Dawes plan breaks under its own load, they argue, then she can obtain better terms in the consequent revision than she can expect now. Her annuity under the Dawes plan for the fifth, or first standard year, beginning September 1, 1928, is 2,500,000,000 gold marks, or about $600,000,000, an increase of 750,000,000 marks over her fourth annuity. In order to understand the reparations situation as it is to-day, says Paul Scott Mowrer in a Paris dispatch to the Chicago *Daily News*, it is necessary to consider a few figures:

"Under the Versailles Treaty, Germany's debt was fixt at 33 billion dollars, plus interest at 5 per cent. This sum has been found impossible. The Dawes plan did not attempt to fix a new total, but merely fixt the size of the annuities for an indefinite number of years. But the experts nearly all agree that the capital value of the German debt under the Dawes plan does not exceed 11 billion dollars.

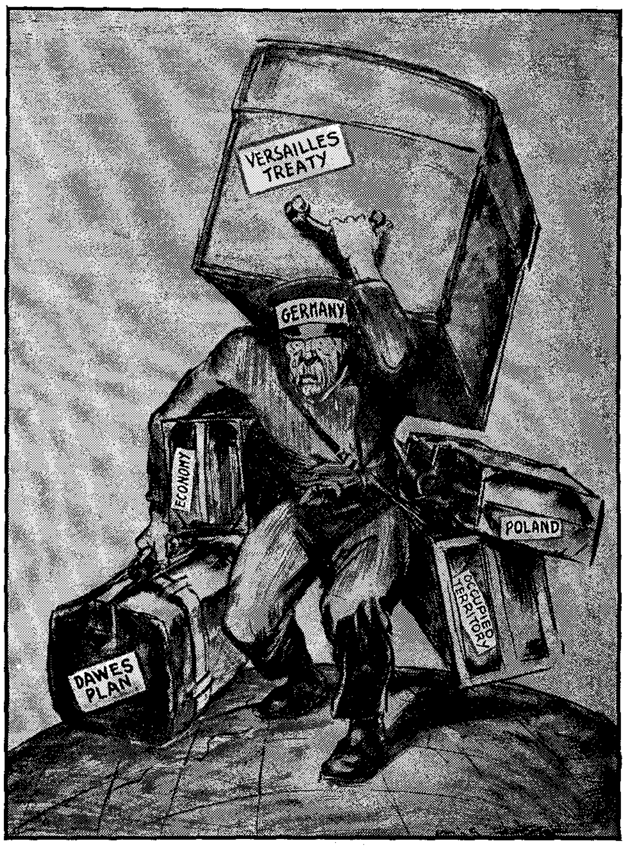
"The maximum Dawes plan annuity of $600,000,000 now for the first time becomes due. The Germans will be able to pay this year, but claim they are unable to continue such heavy payments for any length of time. Most experts tend to agree with them. What is now proposed is that the German payments should be extended over about the same term of years as the Allied debt settlements with the United States—that is to say, sixty years. It is believed that the maximum annuity that Germany will consent to pay for any such length of time is $375,000,000. Capitalized at 5 per cent. over sixty years this annuity represents five billion dollars, or a reduction of over 50 per cent. from the present estimated capital value of the Dawes plan annuities.

"But the Allies owe the United States for war debts five billion, six hundred million dollars. They would therefore be receiving less from Germany than they must pay the United States, and there would be nothing left over whatever for reconstruction of the devastated regions or for other war damages. They propose therefore to attempt to realize the German debt immediately by the sale over a series of years of some four and one-half billion dollars in German bonds to the international investing public.



FRANCO-GERMAN WINTER SPORT

"Aren't we going fast, Fritz?"
"Yes, but we are also going downwards."
—*Kladderadatsch* (Berlin).



GERMANY'S THANKLESS JOB

"What a joy to be the porter of the World Peace."
—*Kladderadatsch* (Berlin).

GERMAN APPEALS FOR SYMPATHY

Part of the cash thus obtained they are ready to pay promptly to the United States, in full settlement of war debts, provided the United States consents to make a sufficient discount for cash.

"It is said that all concerned have an interest in accepting this plan or something like it. Germany would get a big reduction of her debt, freedom from foreign financial control, a new sense of financial certainty, and probably immediate full evacuation of the Rhineland. France would get free of her debts to Great Britain and the United States, and recover half of the reconstruction costs. Great Britain would get free of her debt to the United States and the benefit of increased peace and prosperity on the continent. The United States would exchange the uncertainties of sixty years for a considerable cash payment, and would benefit commercially and financially by the improved situation in Europe.

"Nevertheless it is doubtful if the principal Powers will accept this plan at the outset of negotiations. If only for reasons of internal politics, they must first make a show of great stubbornness and hard bargaining."

But, whatever the plan the proposed commission may evolve, editorial observers agree, it can not be a matter of indifference to the United States. While our papers reiterate the declaration of our Government—that German reparations shall not be saddled on the American taxpayer—they also point out that a settlement that brings financial stability to Europe will have an important and stimulating effect upon American business. Moreover, remarks the New York *Evening Post*, "whatever the solution at which the experts may arrive, it will directly affect this country both in respect to Allied payments from abroad and in respect to our possible absorption of German bonds issued to meet reparations obligations." The official American position is thus restated by the Boston *Globe:*

"This nation admits of no connection between the collection of reparations and the payment by European nations of their war debts to us. Reparations, the American Government contends, is a European question into which we do not enter, as we are not asking of Germany any indemnities for the war. The only bill we hold against her covers charges for post-war troops of occupation expenses. The debts owing us, on the other hand, are direct financial arrangements between this nation and the several borrowing nations.

"This American point of view makes it desirable that any proposals for financing the liquidation of reparations by selling German bonds in the United States be closely scrutinized. The United States does not wish to be placed in the position of 'holding the bag,' even indirectly, for reparations collections."

The present reparations situation in its relations to America is outlined as follows in the Philadelphia *Record:*

"There is now going on in Europe a diplomatic poker game of vast and singular import. Shuffling, dealing, drawing, and studying the cards, the statesmen participating are playing with the utmost care and concentration.

"But a peculiar aspect of the game is that while the stakes ostensibly represent billions of dollars of American money, Uncle Sam has emphatically refused to sit in as banker, and has declared that he will not cash the chips. The fact is, nevertheless, that this country is deeply concerned in the outcome of the play, and will confront a perplexing problem when the hour of settlement arrives.

"To drop a laborious metaphor, the European nations are engaged in a final and determined effort to procure a general liquidation of the financial situation resulting from the great war. Specifically, they desire to amalgamate and balance in one account two prodigious and complex groups of transactions —German reparations and Allied war debts. The essential facts are as follows:

"Germany is obligated under the Dawes plan to pay to the Allies an indefinite total within a long terms of years, while the latter are obligated to pay to the United States $11,000,000,000 in instalments covering sixty-two years.

"An international committee of bankers and economists will soon be authorized to determine exactly how much Germany should be required to pay. Her creditors, however, stipulate that the sum must be at least as large as their combined payments to the United States, plus about as much again for war damages.

"Under the proposed plan Germany's indebtedness would be fixt at $8,000,000,000. As security for half of this the Allies now hold $4,000,000,000 of bonds issued against German railroads and industries, and they would take another $4,000,000,000. One of these issues would be liquidated by deliveries of German goods for reconstruction in France and Belgium; the other would be applied to extinguishing the war loans obtained from the United States.

"Those loans as refunded aggregate $11,000,000,000. But this is the total to be paid over sixty-two years, and it is equivalent in present cash to only $4,000,000,000, which is just the amount in German bonds the Allies would have available.

"All of them—with the exception of France—have signed pledges to pay the sixty-two years of instalments. But they argue that it would be better for the whole world to close the books now. So the question they will put is substantially this: Will the United States discount the $11,000,000,000 due over sixty-two years for its present value of $4,000,000,000 cash, accepting therefor the proceeds of sale, chiefly in the American investment market, of $4,000,000,000 of bonds based upon Germany's railroads and industries?

"That proposal President Coolidge, speaking for a wide section of American public opinion, rejects in advance. He holds that the refunding of the Allies' debts to the United States is a closed incident; that no linking of reparations and the war debts will be recognized, and that this country will never consent to become collector of reparations for Europe. He even says the United States is not in any way involved or concerned in the project.

"But this can hardly be said of a scheme which is an outgrowth of the Dawes plan, and which is being seriously studied by American financiers and the American Agent-General of Reparations. In any case the United States will eventually face the choice between the uncertainties of collecting $11,000,000,000 in sixty-two years or accepting $4,000,000,000 in German bonds in immediate settlement."

No matter what may be the form of settlement agreed upon, remarks the New York *Journal of Commerce*, "a solution of the reparations question is of utmost importance to those in the United States who have placed large amounts of funds in German securities, and who have been chiefly responsible for the rapid recuperation of the German economy." As this daily explains:

"More than 70 per cent. of the total loans publicly offered by Germany abroad have been absorbed by the United States, and . . . the American investor, and especially the American investment houses which have brought out German issues, ought to insist that no settlement be made which would ultimately jeopardize the interests of the American bondholders."

The Philadelphia *Evening Bulletin* reminds us that "any modification of the Dawes schedules, or any fixing of the total of German liabilities, would, of course, have to have Washington consent, since this country is a creditor in respect of Rhine occupation costs and the war damage claims of its nationals." And the Washington *News*, arguing that "the United States should help in the reparations settlement," has this to say:

"That this country will sooner or later participate in a new agreement on reparations there is little doubt.

"Nor is there any reason why it should hold aloof. Technically correct tho Washington officials doubtless are in their contention that we have nothing whatever to do with reparations, the fact remains that no nation on earth is actually more vitally interested than America.

"Our war-debt settlements with the Allied nations are every one based on capacity to pay, and capacity to pay largely depends upon how much Germany pays the Allies.

"It is to our interest to help solve the war debts and reparations problems. The two are connected in fact if not in law. We gave Europe the Dawes plan which started the Old World on the road to recovery, and we should do what we can now to complete the job."

In the same city, on the other hand, *The Post* warns Uncle Sam not to be made "the goat" in the pending reparations revision. As this Washington paper sees it:

"Germany is saying to France, 'Fix our total reparations debt at a reasonable amount and we will pay it, if Americans will lend us the money, provided you get out of the Rhineland. The more you can induce the United States to reduce your debt, the more money you will have in the guise of compensation for war devastation. We don't care how much money you get out of the United States and keep for yourself.'

"American bankers have a lively interest in the plans now forming. If an agreement is reached, immense bond issues will be floated in America, upon which the bankers' commissions will amount to millions of dollars. The influence of these bankers will be employed to induce the United States to reduce or cancel the Allies' war debts. If those debts were canceled, the credit of all the debtor countries would be enhanced, and they could float billions of new bonds in America, all of which would bring enormous profits to the bankers. By robbing the American people of what Europe owes them, Europe would be free of debt, and could then make fresh borrowings from the same Americans who had been robbed.

"It is a wonderful plan—an exhibit of supreme financial genius, juggling with entire nations, all for the sake of peace and concord, all at the expense of Americans, and yielding untold millions of profits to the engineers of the plan. By holding up the specter of another war as a consequence of refusal by America to help the poor, distracted European nations to come to agreement, it is hoped that Americans will reduce or cancel the war debts, and thus permit the new borrowing scheme to go through. In its essence it is a scheme to induce America to finance Europe again, after pocketing the loss resulting from cancellation of the debts. 'Do it,' add the bankers, 'or Europe will have another war that will drag us in.' 'Yes,' cry the Allies and Germany in unison; 'if you don't cancel our debts and lend us more money we will quarrel among ourselves. Your only chance to have peace in Europe is to buy it.'"

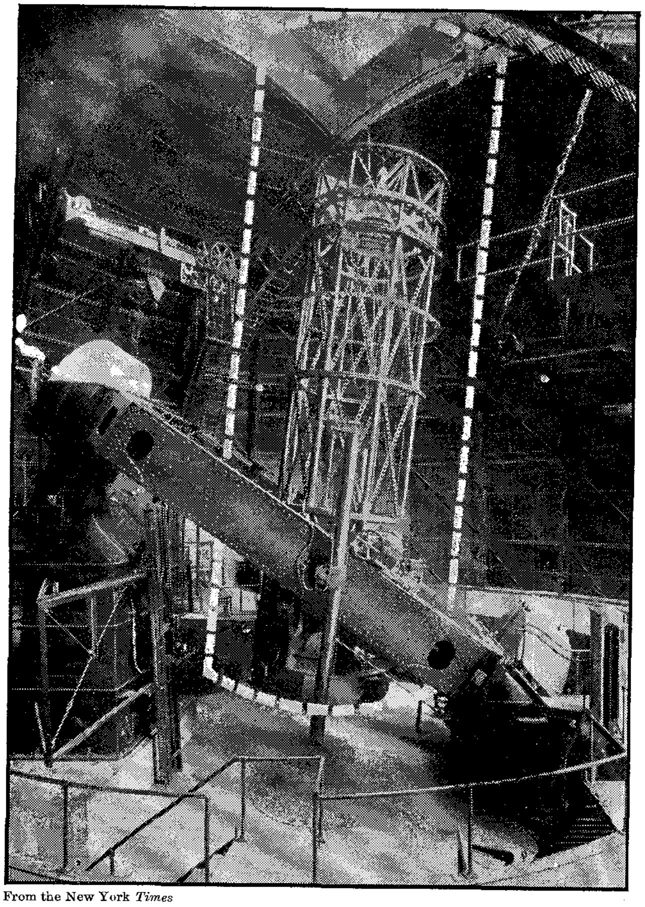
CAN YOU ANSWER THESE?

Test your knowledge by the questions below. If you can not answer them, turn to the pages indicated. Each one counts 4.

1. Why do wild lions have small manes? (p. 40).
2. What is a "light-year"? (p. 10).
3. In what position does Herbert Hoover dislike to be photographed? (p. 48).
4. By what new process is oil discovered? (p. 21).
5. How many political parties are there in Russia? (p. 19).
6. What was Cezanne's fundamental art form? (p. 27).
7. What American custom makes Lindbergh nervous? (p. 48).
8. What will the Mississippi Valley flood-protection project cost? (p. 76).
9. What were the Thugs in India? (p. 30).
10. What restrictions have been put on movie-kisses? (p. 29).
11. Who is called a peace-angel of the Balkans? (p. 16).
12. What British dirigible flew both ways across the Atlantic? (p. 70).
13. How many stars are within range of the largest existing telescope? (p. 10).
14. Who are the Untouchables? (p. 31).
15. Who won first prize at the International Art Exhibition at Pittsburgh? (p. 26).
16. What does extraterritoriality mean to China? (p. 13).
17. Who is said to be the most photographed man in the world? (p. 52).
18. Why is there so much blindness in Burma? (p. 31).
19. What is the aerial method of estimating crops? (p. 22).
20. How many rehearsals will talkie-film actors require? (p. 25).
21. How far into space will the new California telescope penetrate? (p. 10).
22. In what country does a wife walk a dozen paces behind "her lord and master"? (p. 18).
23. What American Boy Scouts have killed lions in Africa? (p. 36).
24. How many people who fly for pleasure in England own their own planes? (p. 62).
25. Of what material are Burmese bridges made? (p. 31).

MAN STRETCHES HIS UNIVERSE

"EXCITING READING" is found in the announcement of a new telescope to be erected in California, for editors discover here an illustration of "the unquenchable ambition of finite man to comprehend the infinite universe." With this new reflector telescope with its 200-inch lens—surpassing the present 100-inch telescope on Mount Wilson—astronomers expect to penetrate perhaps possibly a billion of light-years into space. What does this mean? The newspapers, in an effort to make astronomical jargon intelligible to their readers, point out that light travels at the rate of 186,600 miles a second, and that a light-year is the distance traversed by a ray of light in twelve months. So far away are the more distant stars, and so long does it take their light to reach us, that the astronomers who study them with the help of modern telescopes see "not what is happening to-day, but," in the words of the New York *Times*, "events that occurred before there were men, possibly before there was life of any kind, on earth."



From the New York *Times*

THE GREATEST TELESCOPE AND THE GREATER TO COME

Here is pictured the 100-inch reflector on Mount Wilson, with a dotted line showing the relative size of the 200-inch telescope which is to be built to surpass it. The new telescope will cost several million dollars. Its construction, we read in the press, is due to the initiative of Dr. George Ellery Hale, former director at Mount Wilson.

What will science gain from this extension of man's vision into the infinite—"where the wheeling systems darken, and our benumbed conceiving soars?" Scientists quoted in the press tell us of the possibility of making weather maps of Mars, and of exploring the secrets of the spiral nebulæ. The Washington *Post* even suggests that "the origin of matter is the chief question which lies within the probable field of survey by scientists, who with a new telescope will be able to explore the regions of hitherto unsounded space." Yes, says the Washington *Star*, the mysteries of the skies are being solved, "but there is no answer to the greatest question of all, the nature and purpose of the universe."

The story which starts all these conjectures comes in an Associated Press dispatch from Pasadena carrying a statement from the California Institute of Technology, reading in part:

> "The International Education Board has made an appropriation to the California Institute of Technology in Pasadena for the construction of an astrophysical observatory and laboratory, to be equipped with a 200-inch reflecting telescope and many auxiliary instruments.
>
> "The new observatory, which will be designed to supplement, not to duplicate, the Mount Wilson Observatory of the Carnegie Institution of Washington, will comprise two main parts. One of these will be the 200-inch telescope with its buildings, dome and auxiliary equipment, to be erected on the most favorable mountain site that can be found within effective working distance of the associated groups of investigators and their extensive scientific equipment.
>
> "The other will be an astrophysical laboratory on the campus of the California Institute in Pasadena. This new laboratory will be equipped with instruments and all necessary facilities for the study and interpretation of the observational results obtained with the 200-inch telescope.

Of the uses of the new telescope, the announcement says:

> "It should render possible the exploration of many 'island universes' beyond the Milky Way, the nearest two or three of which are now but slightly known.
>
> "It should tell us something about the evolution of these spiral nebulæ, millions of light-years distant, and much about the development of the stars of our galactic system, one of which is the sun with its encircling planets.
>
> "It should solve many of the problems of physics or chemistry that depend upon the enormous masses or temperatures, or upon the immense density or extreme tenuity, exhibited by celestial bodies in which titanic experiments exceeding the capacity of any terrestrial laboratory are constantly in progress.
>
> "Incidentally, it should reveal hundreds of millions of stars and hundreds of thousands of nebulæ beyond the range of existing telescopes."

The new telescope, we read in a New York *Times* dispatch from Los Angeles, will surpass by from five to ten times the power of the present largest astronomical instrument in the world, the 100-inch Hooker telescope on Mount Wilson near Pasadena. It is expected that the telescope "will penetrate hundreds of millions of light-years into space—according to some estimates, even a billion light-years." The present Mount Wilson telescope has within its photographic range about 1,500,000,000 stars, and the larger instrument ought to take in several hundred million more. The construction of the 200-inch mirror presents the most difficult problem in making the telescope, we read further. "For the first time in the manufacture of large mirrors an attempt will be made to use fused quartz, which is almost proof against the changes of temperature that affect glass and other materials of which mirrors are made."

Chief among the possibilities of the giant telescope "comes the sounding of the remoter depths of space," writes Henry Norris Russell, Professor of Astronomy at Princeton, in a statement for *The Times*. This will include the "resolution" of the spiral nebulæ into separate stars, and proof that they are really "island universes." There will be increased knowledge of the stars through better spectroscopic analysis of their light, investigation into the temperature of the stars—

> "Measures of heat may be made upon the planets, too, and in this way the long-vexed question of the temperature of Mars has been settled. With the larger image given by the great telescope it should be possible to make separate measures of the temperatures of even the smaller areas upon the planet, and to have a good night's work end with a weather map of Mars—at least as far as the temperature goes.
>
> "Even the nearest of our celestial neighbors, the moon, may yield some of her secrets to the new searchers."

But what is the practical use of such extension of telescopic power? The chief utility lies in the realm of pure knowledge, admits *The Times* editorially, but it goes on to remark that:

"The pursuit of pure knowledge often leads to discoveries extremely useful in every-day affairs. The lines of helium in the spectrum of the sun led to its discovery among the elements of the earth; the requirements of difficult problems of astronomy led to the invention of the calculus, without which modern engineering and many useful achievements in the sciences would have been impossible, and quite recently to the formulation of the theory of relativity, which has laid its modifying hand on more than one science, with effects not yet fully manifest."

But "with giant telescopes, as with longer legs, or larger office buildings, indefinite increase in size does not always mean increased utility," remarks the New York *Herald Tribune:* "one reaches the point of diminishing returns." Several of the larger telescopes have been found slightly disappointing, we read, the difficulties being of two chief origins:

"Some are due to slight deformations of mirrors or lenses by their own great weights or by differences of temperature on the two sides.

"Others originate in the air. The beam of light that strikes the 100-inch mirror has traversed a cylinder of air having that same diameter, like a core punched out of an enormous apple. A cylinder of air so wide as this is likely to contain many variations of temperature or density, thus causing irregularities within the beam of light. The much smaller air cylinder that carries light for a nine-inch lens is more likely to be optically perfect.

"For the conquest of difficulties due to the air the new telescope promises little. Its real contribution is likely to be in facts learned about construction and supports suitable to keep such giant mirrors distortionless."

THE RADIO REALLOCATION RUMPUS

AFTER TWO YEARS OF STUDY, experiment, and consultation with radio engineering experts, the Federal Radio Commission will put into effect on November 11 what the Washington *Star* calls "the most drastic curative it has yet prescribed for the nation's broadcasting ills." This is an allocation plan which is expected to place radio reception on a higher plane than it has heretofore enjoyed. The general public, through changed wave-lengths, decreased power assignments, and the splitting up of the time allocated to certain stations, will find that interference has been practically eliminated by the new plan, predicts Capt. Guy Hill, the Commission's broadcasting engineer, in a Cincinnati *Enquirer* article.

Millions of radio "fans" will recall that when Congress enacted a law establishing a Radio Commission, almost two years ago, it vested the members of the new body with authority to license broadcasting stations for one year; to determine to whom licenses should be granted; and to fix wave-lengths, power, and hours of operation. According to Captain Hill:

"The Commission was instructed by law to make the radio-broadcasting facilities equal for each of the five zones into which the country is divided. The law has been both an aid and a hindrance in working out a satisfactory allocation. Its principal defect is that the zones are not based on any principles of radio-engineering, and that in making a reallocation to comply with the law, an unscientific zone arrangement proved a rather bothersome obstacle."

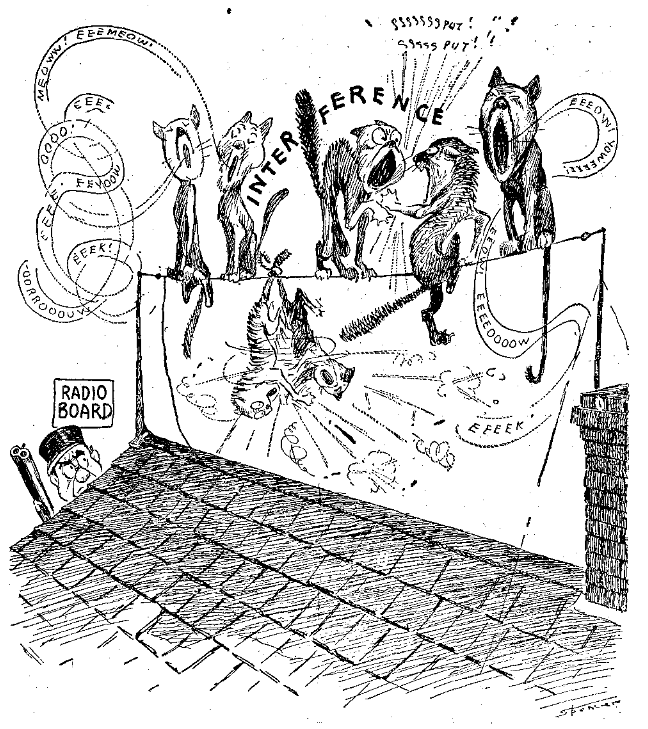
"Rarely has any Federal organization been subjected to such a variety of pressure, argument, and complaint as the Commission," observes the Brooklyn *Eagle,* "but many of the complaints come from commercial broadcasters, who are out to make money." In a North American Newspaper Alliance article by Martin Codel, we learn that—

"About sixty stations, with powers ranging from 1,000 to 50,000 watts, have won places on the forty cleared channels. More than 100 stations, with powers ranging from 250 to 1,000 watts, have been placed on the thirty-four regional channels. On these also there will be much time-sharing, especially in the fourth zone, but the stations will be spaced far enough apart geographically (from 1,000 to 1,500 miles) to preclude interference.

"Four channels at the extreme lower end of the broadcast band have had a dozen stations of varying power and of varying size and importance assigned to them. The power maximum has been fixt at 25,000 watts, but the Commission may authorize power up to 50,000 watts to determine from this experiment whether interference will result.

"The order that chain programs can not be duplicated by stations on cleared channels for more than one hour during the evenings, unless the stations are separated 300 miles or more, will be made effective with the reallocation of November 11."

"In such a new industry," explains the St. Louis *Star*, "it is impossible for the Federal Radio Commission to do exact justice to all." As the Norfolk *Virginian-Pilot* points out:



GO AS FAR AS YOU LIKE, MISTER!
—Spencer in the Omaha *World-Herald.*

"It must be remembered that the Commission was faced with a task of almost unimaginable difficulty. The broadcasting band has room for only about 165 stations of 500 watts or more operating at the same time. To divide such a small number of stations among the five radio zones, and to apportion the stations in each zone among the various States in accordance with population, was no easy matter. The task was further complicated by the necessity of providing for the large number of stations of less than 500 watts, all insistent upon retaining a place on the ether.

"It was inevitable that the Commission should disappoint many stations and many localities. There will be complaints. But the wonder is, not that complaints should arise, but that the Commission should have succeeded so well in tucking away a large number of stations in a sharply limited broadcasting area."

The Commission, we are reminded by the Chicago *Daily News,* "has declared that the interests of radio listeners are paramount." Furthermore, we read in the Baltimore *Sun:*

"The Radio Board declares that it has divided the channels of communication so as best to serve the public as a whole. It has ordered many changes, abolished many stations, and curtailed the privileges of many others. It would be too much to expect that the Commission has succeeded in achieving all that it hoped to accomplish, but there is reason to believe that the new regulations will demonstrate their usefulness in practise. They should be given a fair trial.

"Finally, any station dissatisfied with its assignment will be given opportunity to appear before the Commission and show that public interest, convenience or necessity would be served by better assignment. This is evidence that this body is not proceeding in an arbitrary manner."

BIG BUSINESS "RECOGNIZES" RUSSIA

AN ENTERING WEDGE which may ultimately lead to official recognition by the United States is seen by Soviet newspapers in the contract recently signed by the Soviet Union with the International General Electric Company, of New York, under which the electrical concern is to export to Russia between $21,000,000 and $26,000,000 worth of machinery and equipment. But what becomes of the claims, amounting to $1,750,000, which General Electric holds against the Moscow régime for the confiscation of property in Russia? Some reports say that the Soviet Government is willing to settle these claims, others think the American firm has waived its claim in consideration for new business. The New York *Times* admits that it has been unable to learn definitely whether General Electric has abandoned its claims; whether the Soviet Government has given up its policy of refusing to recognize foreign property rights which existed prior to the overthrow of the Czarist Government, or whether an out-and-out compromise has been entered into by the parties to the contract. Many of our editors are inclined to believe that such an understanding exists; an arrangement, for example, whereby the cost of satisfying General Electric's claim against the Soviet Government is "tacked onto" the price it is charging for its electrical apparatus.

Keystone View photograph

HE STARTS THE SOVIET SETTLING UP

"All claims of our company against the Soviet Government . . . arising from the annulment of property rights relating to our interests in Russia," will be settled upon the completion of the General Electric-Soviet contract, announces Clark H. Minor, President of International General Electric.

According to the Amtorg Trading Corporation, of New York City, commercial representatives of the Soviet Government in the United States:

> "The six-year purchasing contract signed with the International General Electric Company for long-term credit purchases from that company involves a total sum of from $21,000,000 to about $26,000,000. The arrangements made include technical cooperation.
>
> "The Soviet Union is now the chief European market for American agricultural machinery. It is the third largest European market for American electrical machinery. It stands sixth among all foreign countries importing American cotton, and eleventh among those importing American industrial machinery.
>
> "Before the war Russia's annual purchases in the United States were only $40,000,000. During the Soviet fiscal year, ending September 30 last, Soviet orders placed in the United States amounted to nearly $100,000,000. During 1926-1927 they were $72,000,000, and in 1925-1926 they were $49,000,000.
>
> "It is interesting to note that the Soviet Union has so far recovered from the war and the revolution that its purchases here are 250 per cent. of those of 1913."

One of the papers which believes the Soviet has capitulated to "big business" in the International General Electric matter is the Philadelphia *Bulletin*, which says:

> "Two features of this transaction make it of larger interest than an ordinary Big Business deal. The Soviet has agreed to settle the General Electric's claim; it has found it expedient to recognize its international obligation as to the property of foreigners. Perhaps with widening trade relations with the rest of the world it may see the wisdom of a general reversal of its policies of confiscation.
>
> "The second feature is that the negotiations were carried to successful conclusion with the knowledge of the State Department. The whole transaction is proof of the Department's contention that absence of normal diplomatic relations is no bar to American trade with Russia, and that the Department itself places no obstacles in the way of such trade."

Will the Soviet-General Electric deal have any effect on the State Department's attitude toward recognition of the Moscow régime? As the Indianapolis *News* explains:

> "Our Government, through all administrations since the Communists overturned government in Russia, repudiated contracts, and seized property belonging to foreigners as well as lands and goods owned by Russians, has stood out rigidly against recognizing Soviet rule until reparation is made. There has been some discomfort resulting from the absence of ministers and consuls in Russia, but American trade has, notwithstanding this disadvantage, steadily increased in volume. No sign has been given that the American attitude has changed, but Russian newspapers are expressing the hope that the General Electric contract will be the opening of the way to formal recognition."

One thing is certain, believes the Brooklyn *Eagle:* "If American claims against Russia are settled, one of the obstacles in the way of official recognition disappears." As this paper interprets the recent deal:

> "For the moment Russian recognition is no nearer, altho the International General Electric Company has received a contract which involves acceptance of its claims against the Soviet Government. The Soviet authorities add a 'bonus' for the successful completion of a contract. The 'bonus' represents the agreed value of the property of the General Electric Company which was confiscated under the Lenin decree. The confiscation stands. The American claim is not formally recognized. But the General Electric Company gets the money.
>
> "In the end the State Department may be compelled to accept some such 'face-saving' arrangement for all the American claims. That we have lost much of our fear of Bolshevist propaganda is evident. We permit an army of Soviet officials and employees to travel about the United States unmolested. It would be no more difficult to keep a watchful eye on a Russian embassy and a few Russian consulates than it is to scrutinize the activities of the official Russian Information Bureau in Washington and the enormous apparatus of the Amtorg Trading Corporation in New York."

That is *The Eagle's* view. When we cross the Brooklyn Bridge, however, we find the New York *Times* saying:

> "It would be unfortunate if the Soviet Government were to get the impression that the contract which it has made with General Electric foreshadows a change in America's policy toward Russia. This is not the first or only American corporation of importance to interest itself in Russian development. Nor has there been any effort by the American Government to dissuade Americans from doing business with Russia. On the contrary, successive Administrations, beginning with that of President Wilson, have made it plain that commerce and recognition are not one and the same.
>
> "Americans share with Russians the hope that extensive and productive development will soon be possible in Russia. When that time comes, it will be to the interest of both parties to see that American capital is represented. But this can occur apart from diplomatic recognition. For reasons of home politics the Soviet authorities are now, as usual, hailing the new contract as being of diplomatic significance. But the truth is that the recognition of Russia will take place, not as the result of the activities of the American business men, but because of changes in policy by Soviet Russia. When the Soviet Government makes compensation for confiscated property and acknowledges the debts of its predecessors, recognition will not be far off. Till then trade with Russia will continue to be encouraged, the only limitations being those which result from the attitude of the Russians themselves."

CHINA TURNS TO AMERICA

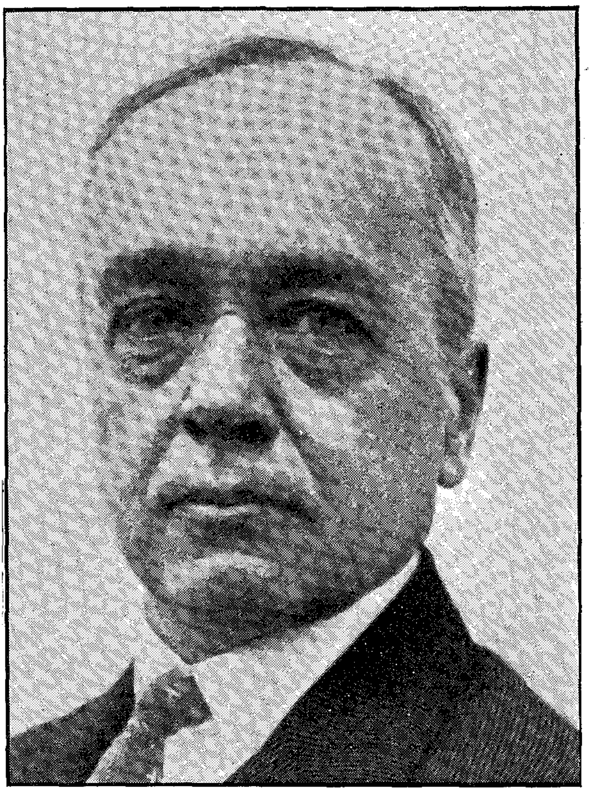
THERE ARE BUT THREE PARALLELS in modern history to the tremendous undertaking of the Chinese Nationalists, notes the Boston *Globe:* The reorganization of Russia under the Soviet; the reconstruction of France after the fall of the Bourbons, and the building up of the United States after the battle of Yorktown. In each of these three cases, we are told, a people found themselves faced by the task of rearing a structure of government from bottom to top. On every side lay the litter of a discredited and defeated past. There were dissenting voices on every hand, yet in each instance leaders emerged to knit a structure embodying the essence of the new experiment in government. Is China to follow the example of France, Russia, and the United States through the elevation of Chiang Kai-shek, victorious Cantonese military leader, to the Presidency?

One of the first acts of the Nationalist Government, after organizing under ten different executive departments, was the selection of Dr. Edwin W. Kemmerer, of Princeton University, to supervise the reorganization of China's finances and currency. Furthermore, we read in a New York *Herald Tribune* editorial:

"The young Nationalist Government has named Henry Ford, Jeremiah W. Jenks, Owen D. Young, Robert N. Harper, and Edwin R. A. Seligmann to act as 'honorary economic advisers.' Just what the title means is not clear, but if it be true that Mr. Ford has offered to build a highway from Shanghai to Nanking, in return for a five-year freedom from customs duties, one may guess the kind of hope that lies behind the appointments.

"But coupled with this appeal for American friendship comes the announcement that China intends to ask immediate cancellation of the extraterritorial treaties. Extraterritoriality means exemption from local law; foreigners in China, in general, have for eighty years been tried before their own officials rather than in the Chinese courts. It is a system which originally facilitated peaceful relations and averted conflict, but it has been abused, and in late years the Chinese have increasingly objected to it.

"There is no doubt that the extraterritorial system is an infringement of Chinese sovereignty, and the Powers have sometimes seemed to demand from China a standard of justice which they certainly do not require of some of the more turbulent sovereignties of the West. But the Nationalists, who for the first time in a decade have united China under one government, and now need foreign aid to meet their gigantic problems of reconstruction, might well have waited a little before delivering such an ultimatum."



Underwood & Underwood photograph

TO CURE CHINA'S MONEY TROUBLES

Dr. Edwin W. Kemmerer, of Princeton University, has been engaged by the new Nationalist Government to show China how to reform its currency, taxation system, and banking. The task of this monetary pathologist and his staff will be to establish a uniform currency on a gold basis, and a central bank of issue that may eventually be expanded into a Chinese Federal Reserve System.

Of the recent happenings in China, the invitation of Dr. Kemmerer seems to have stirred up the most editorial discussion, probably because the selection of Chiang Kai-shek and the demand for the abolition of extraterritoriality were foreseen. In the opinion of the Columbus (Ohio) *Dispatch*, the Princeton professor, who has acted as financial adviser to a number of foreign governments, "is unquestionably one of the best-informed men living on problems connected with national budgets, taxation, and finance." No one is better fitted to undertake the rehabilitation of the Chinese currency system, agrees the Manchester *Union*. And, while Dr. Kemmerer has successfully handled similar jobs in Poland, Chile, Bolivia, Ecuador, Egypt, South Africa, Mexico, Guatemala, the Philippines, and Colombia, the task he now faces, thinks the New Hampshire daily, "will be more intricate than any he has attempted in the past." As the Boston *Globe* points out:

"The problems facing the reconstructionists in China are gigantic—desolation of vast territories by war, flood, and famine; dislocation of industry; dispersion of political authority; the complete dissidence of the last remnants of a national form of rule which was, only twenty years ago, absolute and unchallenged in authority over a fifth of Eurasia; the utter overturn of customs, public views, and social practises rooted 5,000 years deep in Oriental soil. Upon such débris of the past her leaders accost the problem of building a modern Republic which will solve difficulties, reintegrate social and political solidarity, create acceptable and suitable governmental machinery, and weld together, after a chaos of war, a people eager to assume their place among the Powers of the modern world.

"The method of attack is inspiring and courageous. China's energetic young statesmen are already reaching abroad in all directions for the talent they require. Peking, historic seat of the Manchus, is abandoned for good. An American architect has been chosen and given the task of laying out Nanking on lines of a complete modern capital. Flood control has been considered, and a solution worked out whereby the dangerous overflow of rivers is to be turned to commercial service in a new system of canals. In Tientsin alone the Republic proposes to spend $50,000,000 on such works. Harbors are to be deepened to aid commercial expansion. Problems of currency, government financial policy, banking, taxes, and distribution of national revenues, have been allotted to a committee of experts. Provincial reorganization and national federation are occupying the attention of another committee. The very magnitude of all this challenges the imagination of the world."

It is considered gratifying that China should look to the United States for expert financial and engineering advice in the circumstances. Moreover, believes the Providence *Journal*, "after the new Chinese Republic has obtained the information and advice which it seeks, it does not intend to neutralize the advantages thereby gained by impeding the development of stronger economic ties with the rest of the world." Of course, admits the Seattle *Times:*

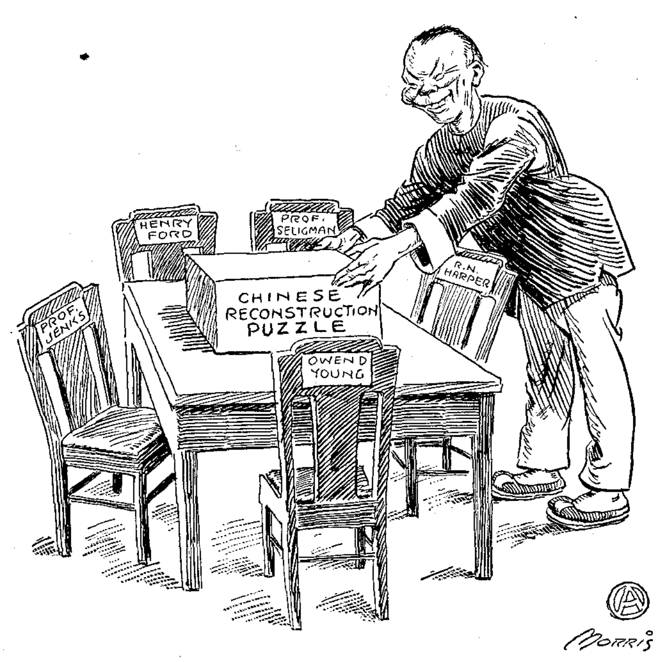
"Nobody believes that American financial and industrial leaders have a monopoly of administrative or organizing ability, yet other countries have looked here for help and advice and have had reason to congratulate themselves.

"For several years Dr. Arthur Millspaugh administered the finances of Persia. So successful was he in that work that the Persians were accustomed to regard him as just a little below the Shah. Their petitions usually began: 'O Allah! O Shah! O Dr. Millspaugh!' In Hungary, Jeremiah Smith of Boston gave valuable service. When he had finished his work the Hungarian Government offered him $100,000, which he declined.

"In no fewer than half a dozen other countries Americans have acted as financial and economic advisers since the World War. S. Parker Gilbert, formerly of the United States Treasury Department, is now serving as Agent-General of the German Reparations Commission. It will be recalled that it was an American commission, headed by Charles G. Dawes, that found a solution of the knotty problems of reparations.

"China is beginning a great reconstruction program. The best brains available will be needed to carry on the public enterprises, to promote industries, and to organize the government."

In some quarters, observes the Memphis *Commercial Appeal*, the invitation extended to Mr. Ford and others to serve as honorary economic advisers is interpreted as the opening wedge in the quest for a large American loan. But, declares this Tennessee paper, "whatever the motive, the Nationalist régime is making an intelligent effort to give China stable government."



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CHINA PREPARES AN OUTDOOR SPORT FOR THE AMERICAN ECONOMISTS

—Morris for the George Matthew Adams Service.

Of the steps which the Nationalist Government is said to have taken on October 19 toward abolishing extraterritoriality, American papers are somewhat divided. "Extraterritorial rights," explains the Des Moines *Tribune*, "means that citizens of other countries, who happen to live permanently or temporarily in China, can not be called to account by Chinese courts, but if charged with any infraction of the law, must be tried by the courts of their own country." Immediate relinquishment of these rights, we are told, has been demanded in a note to all the Treaty Powers. According to an Indianapolis *News* editorial:

"China has sent identic notes to all nations having extraterritorial privileges in the country, asking for cooperation in their abolishment. While the principle involved has existed in the Orient for almost 300 years, its application on a broad scale began in 1840. Great Britain then negotiated a treaty with the Chinese rulers that established a consular court system. Under this arrangement, British nationals in China, accused of legal infractions, were tried in these courts instead of by the Chinese. Another effect of the extraterritorial idea was the creation of national and international zones inside the country. These infringements on domestic sovereignty now rise as troublesome issues in dealing with the new Government.

"The explanation for the need of extraterritoriality, as voiced by foreign Powers in the beginning, was that an imperfect Chinese court structure and a weak central government at Peking left no other way out if foreign interests were to have adequate protection. The uncertainty about achieving comprehensive reforms in antiquated methods, both in the protection of property and the trial of foreigners accused of offenses, still complicates the situation.

"The position of the American Government has been that, altho the principle could not be defended as a permanent policy, the capacity of the Chinese to maintain equity and justice must be assured before all the concessions could be surrendered. In a considerable degree this has been the stand of the British. It reflects the decision arrived at in the Washington Conference in 1922. A mixed commission, appointed to inquire into native Chinese courts and jurisprudence, reported in 1926. The conclusion was that enough advance had not been made to justify a relinquishment of foreign privileges in their entirety."

On the other hand, the Newark *News* believes that China is in a position to demand that she be treated as an equal:

"She has cleaned house, throwing out the rival war-lords who have kept the country upheaved ever since the overthrow of the monarchy. The country is united beyond expectation, under a government of moderate temper which shows evidence of stability.

"If this new China continues along its present path, the demand will have to be granted. The safest way to make a change is by friendly cooperation. The Chinese have not been unreasonable. They have recognized the necessity of improving their courts and have labored to effect the judicial reforms that will remove all excuse for the extraterritorial courts. Whether or not the reforms are adequate as yet, the Powers should be anticipating the time when extraterritoriality can be abolished. They ought to let China see they are actually moving toward that end."

That Chiang Kai-shek, the youthful commander of the Nationalist forces in China's civil war, has the interests of the entire country at heart is the conclusion reached by the Seattle *Times*, which believes that the new Republic, under his guiding hand, "is in a fair way to realize its dream of a strong, stable, and unified government." This is also the belief of the Norfolk *Virginian-Pilot*, Springfield *Union*, and Philadelphia *Inquirer*. "Chiang Kai-shek," we are reminded by the Detroit *Free Press*, "was among the first to realize the danger of a Chinese alliance with the Soviet Government. At a time when the Reds had obtained virtual control of the Nationalist movement, he broke with the agents of Moscow and started with a clean slate." Lewis S. Gannett, who has talked with the "Chairman of the Executive Council" of the Nationalist Government, to use Chiang Kai-shek's correct title, also points out in a New York *Herald Tribune* article that—

"He is young, and he is modern. He studied in Japan in that period, just after the Russo-Japanese War, when the youth of China flocked across the Yellow Sea, believing that the little men of Nippon would lead them to salvation.

"The task of organizing modern China is immense beyond conception. But if any man in China to-day is competent to assume the direction of that task, it is Chiang Kai-shek."

But, maintains the Troy *Record*, "one can not take a country such as China, accustomed for generations, as it has been, to famine, bribery, and revolution, and make it over in a day." And the New York *Times* adds:

"It would be wrong to assume that it is much more than a ratification of the existing arrangement among the Chinese leaders. Chiang Kai-shek has been the head of the Nationalist Government in fact, if not in name, for the last six months or more. The change of the label from 'Generalissimo' to 'President' should not mislead us. The same is true of the word 'Republic,' which has taken the place of 'Empire' in the last sixteen years. Americans, thinking in terms of their own Government, are inclined to accept China as a republic in fact, as well as in name, whereas the Government is still a dictatorship. There is no Parliament, no Constitution in force, no expression of the public will by ballot, no effective public opinion able to control and direct the acts of officials.

"The regeneration of China can be achieved only by slow and painful work. Not in a year, or even in a decade, can the transformation of a people still largely in a medieval state of civilization into a modern nation be effected."

TOPICS IN BRIEF

(An extension of this department appears weekly on the screen as "Fun from the Press")

Educator finds girls lead boys—and a merry chase it is.—*Wall Street Journal.*

Fewer accidents are caused by traffic jams than by pickled drivers.—*Norfolk Virginian-Pilot.*

Women may not always keep their agreements, but they certainly keep their compacts.—*Arkansas Gazette.*

The "talkies," we are told, have come to stay. So much for the hope that they had just popped in for a chat.—*Punch.*

A Minnesota farmer inquires: "What is farm relief, anyway?" Mostly it is the feeling that comes after a strenuous Presidential campaign.—*St. Paul Pioneer Press.*

His own clothes make the man, but women's clothes break him.—*Norfolk Virginian-Pilot.*

Most businesslike thing the Government can do is to keep out of business.—*Wall Street Journal.*

With the shake-up of her bootleg kingdom, Philadelphia is indeed a city of quakers.—*Weston (Ore.) Leader.*

Personally we crave luxuries, but we have never seen a $5,000 funeral that we wanted.—*Dallas News.*

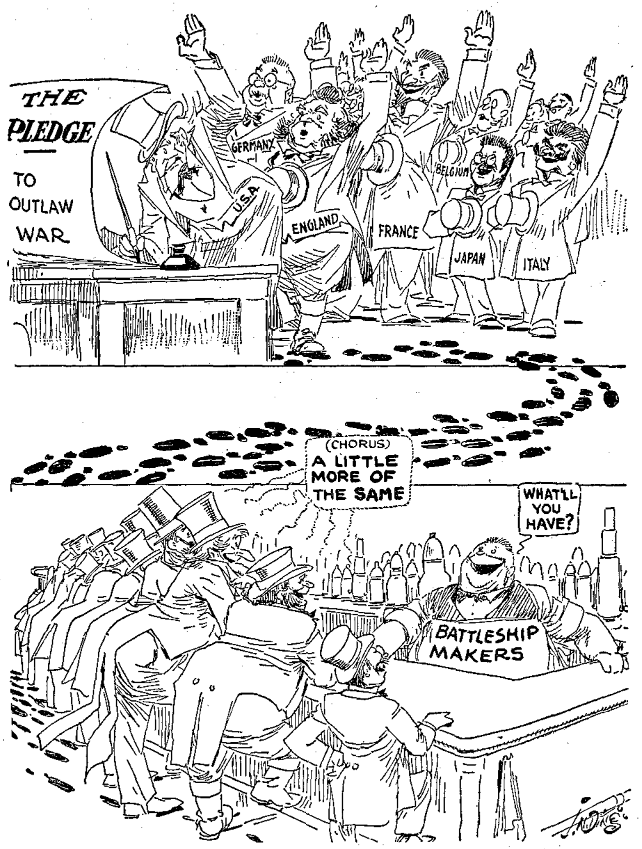
The biggest business of this generation is to nail down peace before the race forgets what war is.—*Boston Herald.*

The most essential factor in breaking an airplane record is to shatter nothing but the record.—*Weston (Ore.) Leader.*

Advertisement says that the secret of poise is money in the bank. At least, it's the secret of balance.—*Arkansas Gazette.*

Paradox: The candidate for Vice-President either gets the job and has nothing to do, or loses the job and goes to work.—*Detroit News.*

Aviator George Storck has started on a flight around the world. Storck and Byrd are showing the way to the other fowls of the air.—*Nashville Southern Lumberman.*



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A QUEER WAY TO SWEAR OFF

—Darling in the New York *Herald Tribune.*

Entered for the $25,000 Durant Prohibition enforcement plan prize: If you talk dry, act that way.—*Dallas News.*

Even tho you get in the public eye, you may be just a little squirt. Look at the grapefruit.—*Corvallis (Ore.) Gazette-Times.*

In Texas there is a campaign for municipal ownership of electric power-plants. We offer the campaign slogan: "Own your own ohm."—*Life.*

The Philadelphia investigation discloses that more than 1,000,000 gallons of alcohol were diverted last year, to say nothing of the persons who drank it.—*San Diego Union.*

Mussolini says he wants "to elevate the standard of living of millions upon millions of agriculturists." We didn't know Italy was having an election—*American Lumberman (Chicago).*

Einstein says two of his passions are playing the violin and absolute solitude. Well, we don't know any easier way a man can achieve the latter than by doing the former.—*American Lumberman.*

And when a millionaire's money talks, it usually talks about more money.—*Dallas News.*

Perfect poise, we would say, is not looking self-conscious in a rumble-seat.—*American Lumberman.*

It is gathered from the many articles printed that the secret of health is still a secret.—*Wall Street Journal.*

What the great American home needs right now is a can-opener a woman can operate.—*Council Bluffs Nonpareil.*

Certain hotels advertise that they have special rooms for reducing figures. We shall take our bill into one of these rooms before we pay it.—*Punch.*

The whole problem is how to trim the war debts without trimming the war creditors.—*Dallas News.*

In Finland they call bootleg liquor korpikunsen kyyneleita even before drinking it.—*New York Evening Post.*

Of course helium is nice and safe around fire, but what we need is a gas that is safe to step on.—*Canton Repository.*

In these slenderized days milady's problem isn't keeping up with the Joneses; it's keeping down with the Joneses.—*Arkansas Gazette.*

We see where our fellow-citizen Tom Edison has received a gold medal. Tom will make a name for himself some of these days.—*Dallas News.*

Clothes make the girl, according to a fashion writer. But, somehow, the job doesn't seem to be finished in the majority of cases.—*Norfolk Ledger-Dispatch.*

An airplane uses 60 per cent. of its power to stay up and 40 per cent. to go ahead, which is about a 30-per-cent. better break than falls to the average man.—*Detroit News.*

A New York official has been given a jail sentence for a $16,000,000 public-works scandal. Petty graft is dangerous. That fellow's mistake was not going in for oil.—*San Diego Union.*

The overhead in the bootlegging business is, we suppose, paid to the "higher-ups."—*Norfolk Virginian-Pilot.*

Anthropologists always go away from home to search for the missing link. Thanks for the compliment.—*Toledo Blade.*

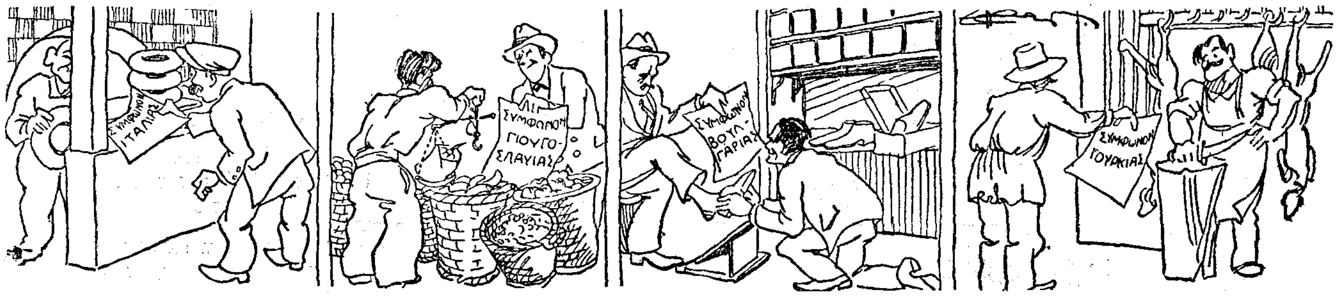
Chicago is planning a 192-mile subway, probably so there will be some safe way for a man to go home.—*American Lumberman.*

Albert B. Fall says he isn't taking any interest in politics this year and, just to even things up, politics isn't taking any interest in Albert.—*New York Evening Post.*

We don't accuse him of commercializing art, but the other night a California undertaker played "Waiting for You" on a trumpet at a lodge function.—*The Thomas E. Pickerill Service.*

The Massachusetts Commissioner of Public Safety tells us that the soldiers guarding a New Bedford cotton mill, pictured in these pages October 20, were National Guard troops, and not State troopers.

FOREIGN - COMMENT



AN OPPOSITION GREEK NEWSPAPER ON MR. VENIZELOS

"If we could buy our hats and everything else we need to wear and to eat by paying for them with pacts, Greece would certainly recognize the great abilities of her pact-making Premier." —*Helliniki* (Athens).

VENIZELOS AS A PEACE-ANGEL OF THE BALKANS

"NOBODY CAN PREVENT ME from working for peace," said Premier Venizelos of Greece, in explaining his visits to Jugoslavia, Italy, France, and England. And France should not worry because he has concluded a pact with Premier Mussolini, the Greek statesman maintains, for it is merely a general arbitration agreement. As quoted by the editor of the Paris *Pax*, a political and diplomatic weekly, Mr. Venizelos declared also that he had given the Belgrade Government all necessary explanations regarding his understanding with Premier Mussolini, and, furthermore, he averred that he is considering making a proposal to Albania, because he means "to establish complete peace between my country and all my neighbors, including those of Angora." Confidently then he asserted that after he has signed pacts of friendship with the entire Balkan world, it will be time for Greece as well as for her neighbors to disarm completely, and thus the heavy expenses of armament will be eliminated, and "our budgets will balance themselves." A Greek newspaper which is reported to reflect the ideas of the Greek Premier, the Athens *Patris*, has this to say:

"The geographical position of Greece is such that there are differences of interests and of opinions between Greece and her neighbors. Our Balkan neighbors are free from the troubles of the Mediterranean, whereas Greece is surrounded, in more than half of her territory, by the sea. Therefore her interests make it imperative for her to be on the most friendly terms with her neighbors of the Mediterranean. Other Powers bordering on the same sea will realize that our relations with Italy are a question of vital importance to us, and treat us accordingly."

Referring to the pact he signed with Jugoslavia, this newspaper informs us of a statement made by Mr. Venizelos to the effect that Jugoslavia was "kept fully informed of our doings in Rome, and Italy knows perfectly well what I want to do in Belgrade." The important point is that Greece has settled her relations with Jugoslavia, according to Mr. Venizelos. Comparing the pacts of Rome and of Belgrade, the Athens *Eleftheron Vima* remarks:

"That France immediately after the signature of the Greco-Italian pact should express the desire to see Greco-Jugoslav relations placed on a better basis is only natural. France is the ally of Jugoslavia, and is naturally interested in the fortunes of that country. Perhaps the idea of a Balkan Locarno, so dear to the French, is not feasible as yet. . . . What Mr. Venizelos can do at present is to give all the Balkan peoples a new consciousness of their interests. And whenever we Balkan peoples reach the point where we realize our community of mutual interests, then the slogan 'The Balkans for the Balkan peoples' will become a reality."

Among the opposition Greek press, such as the Athens *Kathimerini*, criticism against Mr. Venizelos is heard because of his "having begun his international settlements without at first solidifying the country within," and this newspaper charges that:

"To try to solve our foreign affairs at a time when the internal weaknesses of Greece are too apparent to be discust here, is a great mistake. Mr. Venizelos said that he is going to make Greece much stronger. He should have accomplished that part of his program first before concluding agreements that will not be to the greatest advantage of the country."

The discordant note of the Greek opposition press sounds in sharp contrast to the fervor of Jugoslav editors on the subject of the Greek-Jugoslav pact. Thus the Belgrade *Poiitika* observes:

"An old ally of the old Serbia is in Belgrade helping to continue the good old work of promoting peace and good-will in the peninsula. Whether he will confine himself to signing individual pacts, or whether he will proceed to the creation of a wider Balkan Locarno, his object will certainly be to preserve the Balkans for the Balkan peoples. Therein lies the safety of all of us, including Greece."

This view is further reflected in the *Samoprava*, which says:

"The visit of the Greek Premier is proof of the desire of his country to bring about closer relations with Jugoslavia. In this connection he may be sure that he will meet with no obstacle this side of the frontier, and we hope that his visit will mark a new milestone in the history of Balkan relations."

Still more emphatic is the opinion of the Belgrade *Vreme:*

"In the face of the greater objective of Balkan peace, all minor objections and cheap calculations should fall to the ground. The Greeks and the Serbs should live in friendship, mutually preserving their common interests. In this country there is scarcely anybody who seriously thinks of imperialism or expansion. Balkan peace will be safe as long as it remains in the hands of the peoples themselves."

Turning to the Turkish press we find the Constantinople *Vakit* averring that it is a fortunate thing for Turkey that the pact between Italy and Greece came after the one between Italy and Turkey, because if this order had been reversed, "many people would hasten to draw all sorts of anti-Turkish conclusions," and this newspaper adds:

"However, the course taken by these pacts makes it quite natural for Turkey and Greece to sign a similar pact, in view of the fact that Mr. Mussolini is bending every effort toward the betterment of Greco-Turkish relations."

Another Turkish daily, the Constantinople *Djumouriet*, in commenting upon the Greek-Italian rapprochement, says that, "any subsequent improvement of relations between Greece and Turkey will materially contribute to the preservation of the peace both in the Mediterranean and in the Balkans." When Mr. Venizelos returned to power, remarks the Constantinople *Stamboul*, it was feared that any effort for a Greco-Turkish rapprochement would be rendered more difficult, but "fortunately the subsequent statements of the Greek Premier and the entire course of his new policy have convinced us of his good faith." Further comment in the Turkish press seems to indicate that as soon as a pact is concluded between the two former enemies, both governments will take up the question of their mutual reduction of naval armaments, which now are a drain on the budgets of both countries.

Bulgaria, being the immediate neighbor of both Jugoslavia and Greece, naturally takes a live interest in the Belgrade pact between those two countries. Thus the Sofia *Dnevnik*, in giving credit to the activity of Mussolini, says:

"The pact between Italy and Greece is a great success for Mr. Mussolini in his efforts for the pacification of the Balkans. While the League of Nations, and Great Britain, and France in particular, remain inactive in the Balkans, and have a foreign policy entirely based on their own selfish views and aspirations, Italy is busy concluding pacts with Turkey and Greece, with the object of extending her peaceful influence throughout the peninsula, including Hungary, Roumania, and Bulgaria. Italy is doing that without imposing the views of the victor on the vanquished and without in any way interfering with the peace treaties."

From *L'Illustrazione* (Milan)

A PEACE-ANGEL OF THE BALKANS

Premier Venizelos signing a pact of friendship with Italy in his policy to have cordial relations with all the neighbors of Greece.

At the same time the Sofia *Slovo* says the following in commending Mr. Venizelos's moderation:

"It would appear rather surprizing that Mr. Venizelos should have signed a pact with Italy, while a dozen islands in the Ægean, strictly Greek in character, are still held by Italy in no uncertain way. In any other country of the world such a policy of a premier would be condemned as no less than treason. The fact of the matter is that Mr. Venizelos considers the rapprochement with Italy much more important than the satisfaction of a nationalistic program at a time when the achievement of Greek national unity seems impossible of fulfilment."

Roumania is also taking a very active interest in the activities of the Greek Premier, as shown in the Bucharest *Adeverul:*

"The Greek pact with Italy was a good start for the materialization of a Balkan Locarno. Mr. Venizelos being a man of action felt that it was up to him to take the initiative of a new foreign policy. Convinced as he is of the great rôle that Greece is bound to play in the Balkans as well as in the Mediterranean, he started to sign pacts with his neighbors. That he went to Rome first was a clever move, because in that way, he rendered the conclusion of an agreement with Jugoslavia much easier. The Roumanian Government follows with confidence and equanimity these movements of Mr. Venizelos."

Among the Italian press we find the Turin *Stampa* declaring rather sarcastically that the Premier Venizelos of today is a different statesman from what he was during the World War, "when he fantastically conceived a greater Greece." But such a conception had little foundation in reality, and the course of events that followed gave Venizelos and Greece bitter disappointment, according to this daily, which continues:

"The accords that Italy is establishing have no character of alliance as in the past. Italy is making these agreements, not to prepare for conflicts, but to avoid them. She makes them to destroy dangerous proposals for supremacy and to render possible a peaceable rectification of the most painful errors of the treaties of 1919. This policy of Italy is being followed in several places on the same sea in which Greece boasts of her magnificent traditions, and for which she justly deserves new prosperity."

Says the Rome *Giornale d'Italia:*

"Two facts characterize the signing of this friendship pact. The treaty is the first of this kind that Greece has concluded with a big Power. Rome is the first European capital that Venizelos visited during his first trip abroad after reassuming the government of his country. Such facts alone are a sufficient demonstration of the present political relations between Italy and Greece, also of the function of the new pact in the general frame of the Hellenic foreign policy."

After asserting that Italy can not help rejoicing at the revival of her collaboration with Greece because of the ancient traditions and the "superb common facts that associate Italy with Greece," this paper says:

"But besides the historical traditions there is a living and evident fact that explains this new Italo-Hellenic collaboration. Greece is as much as Italy an essentially Mediterranean country, and like Italy has contingents of her own population scattered all over the world. Greece is like Italy an active and bold maritime country. Their merchant ships meet frequently along the sea routes, especially in the Oriental zone of the Mediterranean."

To the Diplomatic Correspondent of the London *Daily Telegraph* Premier Venizelos is quoted as saying in part:

"'Peace! Peace! . . . That is the single aim of my foreign policy. It explains to you the Pact of Friendship, Neutrality, and Arbitration, which I concluded in Rome with Signor Mussolini. I have come over to London to make this clear to Mr. Baldwin and Lord Cushendun, as I think I have already made it clear to Mr. Poincaré and Mr. Briand. I also like to think that British statesmen will take the same view of this pact as their French colleagues, namely that, considered from the standpoint of European and Balkan peace, it is "unimpeachable" . . . Yes, that, I imagine, is the right word, unimpeachable.'

"I am able and happy to state that, thanks to the Treaty signed within the past fortnight, Greece's relations with Italy have at last been placed on a solid footing, on the same basis of mutual amity and trust as governs her relations with Great Britain and France."

INDIAN ADMIRATION FOR BRITISH WOMEN

THE SUPERIORITY OF WOMAN'S STATION in England compared to the position of her sex in India is the most astonishing observation made by an Indian politician on his visit to England. The entire freedom of women in Russia will be noted with interest in the adjoining column, as a right that came to them through revolution. Meanwhile, it is not only the English woman's dignity and freedom that impress Neoroji M. Dumasie, but also the confidence with which she holds her place. Now in India, he reminds us in the London *Daily Mail*, woman is recognized as man's inferior, and so much so that "she walks a dozen paces behind her lord and master." Generally she is her husband's slave, according to this informant, who declares that the husband's will is law, while hers does not matter. Often she will rise hours before the dawn to attend to her domestic duty, it is related, and drudgery is her lot, usually under the eye, and "often under the rod" of her mother-in-law. One of London's great shopping streets impresses this Indian writer:

"Regent Street always fascinates me. There woman reigns supreme. It is a street of women. The shops are run by women for women. One day I tried to calculate the proportion of men to the women I saw. Women outnumbered the men by about ten to one.

"We have a street of women in Bombay, my native city. But in that street woman does not buy and sell. She is sold. It is a street of sorrow and sadness. Regent Street is a boulevard of color and charm.

"Your stalwart English girl—so self-reliant, so self-confident—what a contrast she makes to the shrinking, timid girl of the East, sometimes wife and mother before she has reached her teens, often an old woman at thirty! I saw a bride leaving a West End church the other day—radiant, happy.

"Millions of women in India never know an hour of joy. Thousands of them live behind latticed windows, with but small peepholes to look out on a world which for them never changes. Many of them work in factories or the fields from childhood to the grave. Perhaps they are more fortunate than most. At least they see a little of life.

"But do they dress as charmingly as the women of the East? No; they do not. I miss the color of the East. I prefer the graceful folds and the picturesque tints of the Parsee woman's sari to the short skirt. Many of those long legs I would rather see less of. The display of knees—what would the zenana woman say of it? And why those high-heeled shoes? Surely the English girl is tall enough without trying to add to her inches."

WOMEN'S FREEDOM IN SOVIET RUSSIA

FROM THE VERY FIRST DAYS of the Soviet Revolution in Russia women were welcomed to its ranks as in every way the equals of men, and this fact is cited admiringly by some who may have much to criticize about the Soviet régime. As far as women are concerned, we are told, they accepted any positions offered to them, no matter how odious or how risky, if only they could be of use to the cause of liberation. This conduct was not of a few women, but of thousands, writes Maurice Hindus in *Asia* (New York), and he tells us they demanded no distinctions and no favors, and were ready for anything, even death. They were followers and they were leaders, it is recorded; they were spies and they were bomb-throwers, sharing everything alike with men, planning and plotting with them, and marched together with them to jails, to penal settlements in Siberia, and even ascended the gallows. It is declared that in no other movement in history did men and women live on such terms of mutual respect and confidence, and work with such sublime selflessness in the effort to achieve a common purpose. This allusion makes one think of the desperate fight made by women in England to attain their present political enfranchisement and social status, as shown in the article in the first column of this page. Mr. Hindus calls attention to the fact that feminism in Russia could never assume the narrow form that it did in other lands—that is, a battle against the domination of men, and he adds with considerable force:

Courtesy of *ASIA* Magazine (New York)

WOMAN'S NEW DAY IN SOVIET RUSSIA

Educational opportunities, in and out of schools, are as open to women as to men.

"Women in Russia were not fighting for the mere right of suffrage, higher education, opportunity to hold office, or enter the professions. They were waging together with men a war to the death for the same cause—the liberation of the Russian mass, with equal rights for both sexes. There was never any question about the future of women in the event of the triumph of the Revolution. Never. Women, it was understood, would enjoy the fruits of victory as much as men, no more but no less, regardless of the party that might ascend to power. Menshevik, Bolshevik, Social-Revolutionary, or even liberal Cadet—all were pledged to the fulfilment of this exalted heritage of the Revolution.

"Well, the Revolution has triumphed. It matters not for purposes of this discussion that the party in power happens to be out of accord with the fundamental tenets of Western civilization. It matters not that it is a fierce dictatorship. After all, even under a dictatorship, however brutal, there are rights and opportunities for men and women within the camps of the ruled, and even more within the camp of the ruling. To what extent then has the revolutionary heritage of equality of women been fulfilled? How is woman faring in the Russian society, and what is the social and spiritual import of her new position in life?

"In one respect, in her outward appearance, the Russian woman presents the sorriest spectacle of any woman in Europe. In such lands as Poland and Germany one stumbles often enough into shabbiness of attire among women. But there, side by side with the woman in homespun and cotton jeans and coarse boots, there parades the woman in silks and velvets. Not so in Russia.

"The fashionably drest woman has all but disappeared from the scene. Nowhere is there any semblance of elegance, any display of gorgeousness, any show of style in woman's dress. It is drab, almost sordid, to Western eyes. To this day the majority of women do not wear hats, not even on the Nevsky in Leningrad and on the Tverskaya in Moscow. The kerchief takes the place of the hat, and of late the boy's cap has been striving for supremacy among the young girls, and especially the college students. At neither the opera nor the ballet nor at the theater is there a glitter of jewelry or a shimmer of gowns to dazzle the eye, as in other lands. Fashion magazines are slowly creeping back to life, but the fashionably gowned woman is still a memory of the past."

But in other ways, we read then, extraordinary things have been happening to the Russian woman, who is undergoing an inner revolution so violent that it must stir a repercussion in other lands. She is working out her destiny, it seems, in a manner to make her already distinct in mental traits and daily activities from women in Europe and America. She has lost not a little, but she has gained much, and if she is discriminated against, it is not as a woman, but as a member of a group, for one reason or another in disfavor with the dictatorship. It is further pointed out that:

"Prejudices, tabus, conventions, especially in the village and among Asiatic peoples, have not entirely lost their power, but new forces are at work everywhere, attacking these with relentless persistence, and seeking to annihilate them. There is something big and challenging in this recreation of the Russian woman, something that must be honestly and searchingly considered.

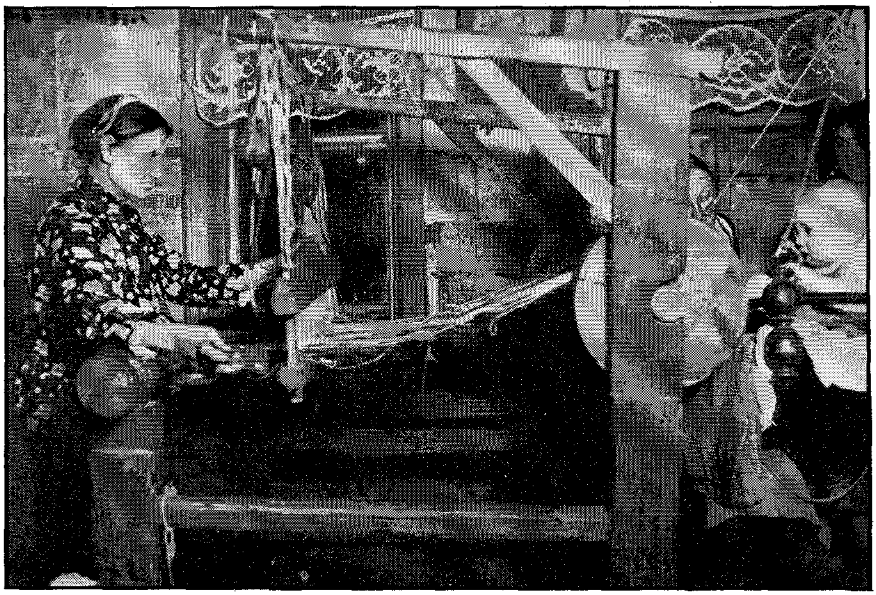
"Of primary significance is the fact that through the Revolution the Russian woman has attained political equality with man. She has the right not only to vote but to hold any office for which she is fitted. I do not mean to imply that the exercise of suffrage is as free in Russia as it is in the United States. It manifestly is not, except in the village. Pressure is exerted now openly, now secretly and drastically, to compel or prevent support of this or that candidate for office. But such pressure is directed against men with no less force than against women; sex is not a decisive influence. Also, the right to hold office is not merely a legal abstraction. In this respect the contrast even between America, where women have achieved distinction in public office, and Russia is noteworthy. In America there have been two women governors and nine women members of Congress, and they have all become national figures merely because their election to such office was so novel that it commanded front-page space. But in Russia, within the limits of the dictatorship, of course, women in high office are too numerous to receive more than passing notice in the press.

"Everywhere one goes, one sees women in high command. Eight per cent. of the members in the All-Russian Soviet, the chief governing body of the nation, are women. Scores of women have been chosen to the chairmanship of provincial and city Soviets, that is to positions corresponding to governor and mayor in this country. In more than twenty States in America women are still barred from jury duty; nowhere in Russia are they barred from such duty. In the judiciary in Russia women are gradually attaining prominence which bids fair in the not very distant future to equal that of men. In 1926, in the region known in the old days as Great Russia, there were one hundred and forty-six women judges and about a score of women prosecuting attorneys. For the first time in history, a woman has been ambassador in a foreign land—a Russian woman, just as in the preceding century it was a Russian woman, Sophie Kovalevskaya, an outstanding mathematician of her day, who was the first woman in Europe to be professor in a man's university (not, however, in Russia, but in Norway). Altho no woman has as yet been a commissar, that is, a member of the Cabinet, women in all commissariats have risen to posts of responsibility. In the Commissariat of Education two women, Yakovleva and Krupskaya, are in rank second only to Lunacharsky and, in achievement, perhaps transcend him."

Of course there is only one political party in Russia, this informant goes on to say, but in its ranks women do enjoy "an intrinsic share of influence," and sometimes a decisive one. The idea, deep-rooted in some parts of this globe, he avers, that it is a reflection on men to be governed by women or that, if allowed free rein in government, women will in time dominate men, provokes no anxiety in Russian men. They do not think in terms of the domination of sexes, he tells us, possibly because of the revolutionary idea that women are not competitors but merely companions of men in the affairs of the world, and he calls attention to the fact that:

"As a natural result of this view, there is now no sphere of Russian life in which men are accorded legal rights that are denied to women. A man can not, for example, impose his name or his nationality on the woman he marries. She may keep her own name if she so chooses. At any rate, she has as much to say in this matter as the man. Nor can the man impose his place of residence on her. She does not have to follow him in his migrations if she does not wish to. When she leaves his bed and board, he can not advertise that he will not be responsible for her debts, unless, of course, he obtains a divorce.

"In the matter of property rights the law again nowhere discriminates against the woman. Nor, on the other hand, does it assume the attitude that she is the weaker or inferior party in society and must therefore be accorded special protection. The jilted woman can not sue a man for breach of promise; nor can she ever seek any kind of compensation for so-called 'alienation of affection.' The woman bandit or counter-revolutionary, unless she is pregnant, is dealt with as summarily as the man—she is turned over to the firing squad.


Courtesy of *ASIA* Magazine (New York)

A WOMAN WORKER IN RUSSIA

Sometimes a nursery and workshop are combined at home, but, according to Soviet theory, it is said, the ideal is a community baby school at the factory where the mother works.

"In Russia the woman is no longer made to feel that she needs or merits a distinct kind of social treatment. There are no clubs exclusively for men unless it be in walks of life that women do not care to enter. Nor are there any schools or colleges exclusively for men. Even in the sporting organizations the membership is mixed. There are nowhere in Russia hotels exclusively for men or for women or restaurants with signs 'tables specially reserved for ladies.' In the trade-unions, in the Communist party, women are welcomed on the same terms as men, and are as much responsible as the men for the principles guiding both.

"There is no field of effort in which sterner social demands are made on women than on men, not even in the teaching profession. Women teachers may associate with men as freely as with other women and not evoke criticism or possibly dismissal from work by the ruling authorities. Women may smoke openly if they so choose, in any and every place where men enjoy the privilege. Smoking, of course, may not be a healthful or esthetic or dignified practise, but the notion that it is less so for women than for men is not held in Russia."

Furthermore, it is noted that in Russia to-day as many educational opportunities in and out of schools are open to women as to men. They are not debarred from so-called men's professions, such as medicine, engineering, and law, it seems, and they are entering these professions in increasing number.

UNCLE SAM AS SEEN FROM OVERSEAS

THE FATE OF THE BRITISH EMPIRE, and even the fate of mankind, depends upon the friendship existing between the United States and Britain, is the belief of some English editors, who maintain that so striking a statement is no exaggeration. But Anglo-American friendship can not be taken for granted, we are told, and it is not rooted in tradition, but rather is a recent and still precarious growth. Now if this friendship is to prosper, remarks the London *Economist*, the British must understand the American point of view, and it asks us to note that:

"Here is a nation which, in the moment of becoming a nation, was withdrawn, partly by external circumstances and partly by its own volition, from the vortex of international affairs which at that time centered round Europe. A century and a half elapsed between this original withdrawal and the intervention of the United States in the General War of 1914-18, and that lapse of time has seen profound changes come over both the American people and the world. The American people, which had started its career as a loose string of European colonies clinging to one coast of the American continent, has become a nation almost twice as strong in numbers as the numerically strongest European nations of the present day; and this nation has acquired, as its national home, the best part of a continent that has proved to contain material wealth beyond the dreams of European economy. This gigantic growth in wealth and numbers—a growth which made the United States potentially the greatest of the great Powers of the world, if she chose to play that rôle—was achieved by an unusual concentration of the national energies upon internal affairs as opposed to foreign affairs, and upon mastering physical nature as opposed to dealing with other people. This has been the history of the American people during the last century and a half, and it has had two effects on the national character which are contending for primacy to-day. It has inclined the American people to be pacific because, with a continent as their undisputed domain, they have become unused to the ancient idea that national prosperity can only be built up at other nations' expense. At the same time they have tended to become impulsive and impatient in their dealings, because they have not been perpetually reminded, by practise, what a dangerous business dealing with foreign nations is, and because drastic methods actually are the best methods for men engaged in dealing, not with other men, but with inanimate nature."

With these two conflicting tendencies both impress on their minds by a century and a half of nation building, we read then, the American people have rather suddenly found that the frontiers which once seemed infinitely wide no longer suffice to contain their energies. Their energies are bursting bounds, and radiating out over the world, it is declared, while at the self-same moment a system of international relations, which has hitherto been essentially European, has become a world-wide system in which the United States finds itself involved—and involved as the potentially strongest great Power of them all. This is obviously a situation which might turn any nation's head, according to this London weekly, which adds:

"It is a very severe test of national character, and it is still uncertain how the American character will react to it. Which tendency will prevail? The pacific tendency or the drastic tendency to stand no nonsense and forge straight ahead—the tendency which carried the American pioneers over the Alleghanies and the plains and the Rockies to the shores of the farther ocean? The eventual answer to that question will perhaps decide the destinies of mankind; and the American people's answer will depend upon the way in which the United States is treated now by the other great Powers among whom her lot is henceforth inevitably cast.

"Among those Powers, Great Britain looms far the largest in the American people's field of vision—so large, in fact, that she almost eclipses the rest. For geographically the British Empire is the middle-term between Europe and America, while history has made it inevitable that, to the American mind, Great Britain should stand, for good or evil, for Europe as a whole. Therefore, at this present momentous time, the British Government's behavior toward the United States Government is being taken by the American people as 'the acid test' of their reception in a strange world into which, in their despite, they have been drawn out of a cherished isolation. To that 'acid test' they will respond by using their strength in one or other alternative ways: either constructively or destructively; either for world-wide cooperation or for world-wide ascendency; either for peace or for war.

"This is the America with which His Majesty's present Government in Great Britain are confronted. They have not yet shown that they understand it."

The question of what are to be the future relations of America and Europe is said by Sir George Paish in *The Contemporary Review* (London) to be the vital question which the coming President of the United States will be called upon to assist in deciding. Hitherto it has been assumed that America will continue the policy she has pursued since 1914, says this financial authority, and will meet the situation in future, as in the past, by granting credit to Europe to buy her products. But, he assures us, this policy no longer meets the situation, and he continues:

"Europe is not at war, and is not willing to mortgage her future regardless of consequence as she did during her great struggle. The European nations, apart from Russia, have now repaired their war damage, have recovered their productive power, and have restored their currencies. Europe's need to-day is to pay for what she requires to buy and to meet the very heavy obligations she has already incurred by selling her goods and services, not by getting deeper into debt. If Europe were to continue to borrow from America she would now do so in order to meet her daily necessities, not to expand her productive power, for that is already large enough to pay for all she needs to buy, provided her productions can find a market. To expand productive power still further by means of borrowed resources when markets can not be found for existing capacity would be unwise and unsound and, instead of overcoming the difficulties, would render them greater. Moreover, it is by no means assured that America will be able to continue to create credit for both home and foreign borrowers after the manner of the last fourteen years. Her power to grant loans in this period has been largely adventitious. It has resulted from the change in her banking laws in 1914, which gave her National Banks power to create more than twice as much credit as formerly without any addition whatever to their cash reserves, and from the import of an immense amount of foreign gold, which the borrowing nations sent to her in order to permit her to grant fresh credit to home and foreign borrowers to the extent of something like ten times the value of the gold sent. But this new fund of banking credit, which the change in American banking law and the immense imports of gold rendered available, has now been largely utilized, and credit expansion in the United States must for the future be on a much more modest scale than it has been in the last fourteen years. Whatever new credit is available will be almost entirely needed to finance America's internal requirements."

Whether the American people wish to maintain their present policy or not with regard to Europe, this financial authority goes on to say, circumstances will not permit them to do so, and, unless a new policy can be evolved, they will be unable to find a market either at home or abroad for anything like their present outlook. Should a policy of drift be resorted to, Europe would be forced to become much more economical in her consumption even of necessaries, and the living standards of her people would fall to a still lower level, according to this writer, who proceeds:

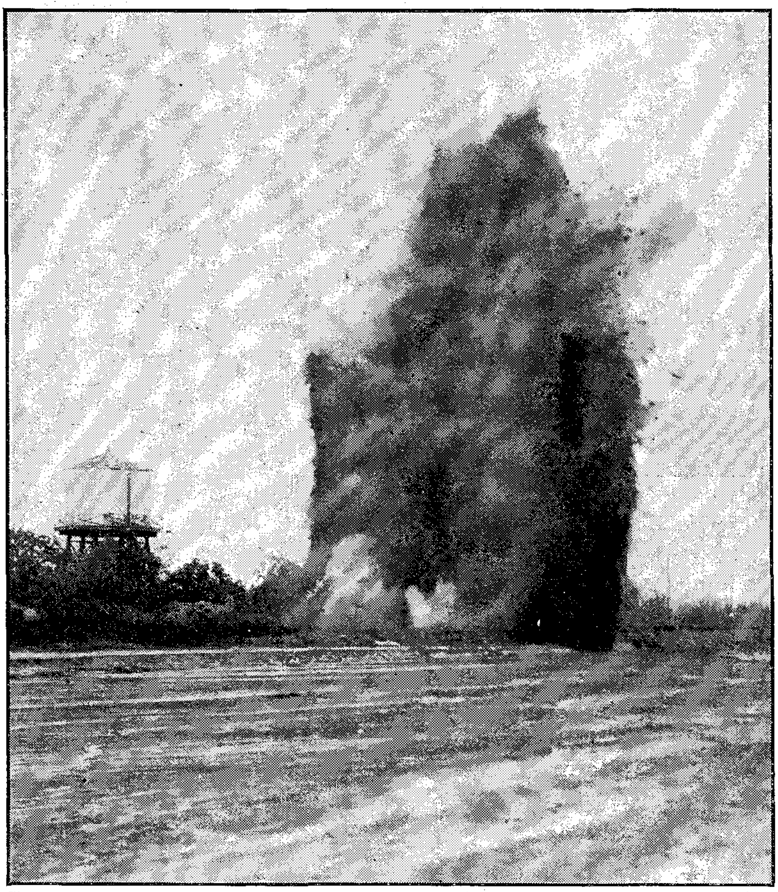
"On the other hand, American farmers, cotton-planters, mine-owners and manufacturers would be left with large quantities of their products on their hands, which they would offer at very low prices without finding buyers, and American prosperity would completely collapse. In these circumstances it is obvious that a new policy must be evolved. The consequences of failure to do so can not be borne either by the people of the United States or by the peoples of Europe. America must sell the great quantity of produce she is now producing and, in order to do so, must buy the products and services of other nations. On the other hand, Europe must sell her products if she is to buy what she needs and to meet her obligations.

"By the aid of the loans obtained from America, Europe is to-day buying American products to the extent of nearly twice the value of the products America is buying from Europe. Europe wishes and needs to buy American products. America wishes and needs to sell her products."

SCIENCE AND INVENTION

PROSPECTING FOR OIL BY EXPLOSION

HOW THE VIBRATION IN ROCK STRATA caused by the detonation of explosives makes it possible to detect the position and character of these layers as accurately as by drilling and much more economically, is told by Tom Darlington in an article contributed to *The Explosives Engineer* (Wilmington, Del.). This method, he tells us, has been particularly valuable in prospecting for oil. He writes:



Illustrations by courtesy of *The Explosives Engineer* (Wilmington, Del.)

A GOOD-SIZED SHOT

"Many years ago some Frenchmen devised a means of measuring the speed of shocks, or impulses, through the earth's surface. They used a Leyden jar to set off an explosion and registered the shock by means of the wavy reflection of light off a bowl of mercury. Since then vast improvements have been made in timing and recording impulses. From these processes have evolved the amazingly accurate present-day system of logging geological structures from the surface.

"Science has captured the split second and made it reveal the hidden structure of the earth's anatomy. Particularly anxious to gaze on this anatomy are the oil companies, and it is at their instance that much of the geological exploration is being done.

"Because of the secrecy in which these geophysical operations have been conducted, the layman has had little opportunity to become informed and has either a very vague or very erroneous idea of what they are and what they accomplish. The idea that there is a new wand which points to oil is certainly erroneous. That the method offers an accurate, and an incomparably cheaper method than drilling, of charting stratified formation, is certain.

"The most extensive geological exploration in the West is being done in the San Joaquin Valley in south and central California. Oil companies and exploration companies are conducting the work. The pioneer in the method described in this article is Frank Rieber, Inc., of San Francisco. Advanced types of instruments designed in this company's laboratories have registered waves created by exploding a total of nearly 1,000,000 pounds of dynamite."

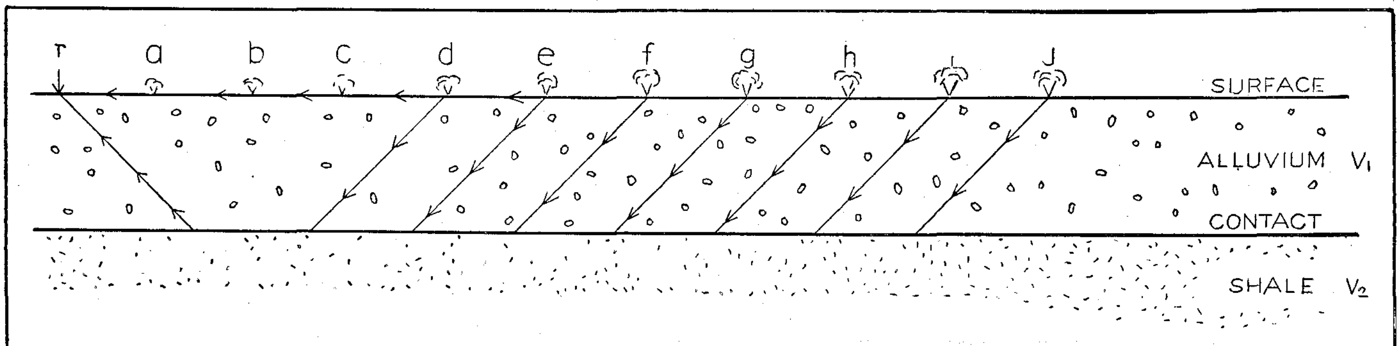
Mr. Darlington then proceeds to details:

"The method employed is, briefly, as follows: A convenient base-line is laid out across the area to be explored. At right angles to this run the lines of exploration, that is, the lines in which the 'shots' are set off.

"A truck containing the equipment and instruments arrives on the scene and sets up operations. It carries several complicated machines, one of which is called the 'receptor.' This is installed on the ground several hundred feet away from the truck and connected with the 'modulator' in the truck by insulated wires. The modulator's function is to gather and amplify the elastic waves from a shock and record them on film.

"Several of the field party now proceed away from the truck, putting in a line of 'shots.' A 'shot' in geophysical work may be any charge of explosive from one-half cartridge to five or six hundred pounds. After much experimentation, the Rieber Company has found that 100 per cent. blasting gelatin gives the most satisfactory results. Other processes use various grades of dynamite.

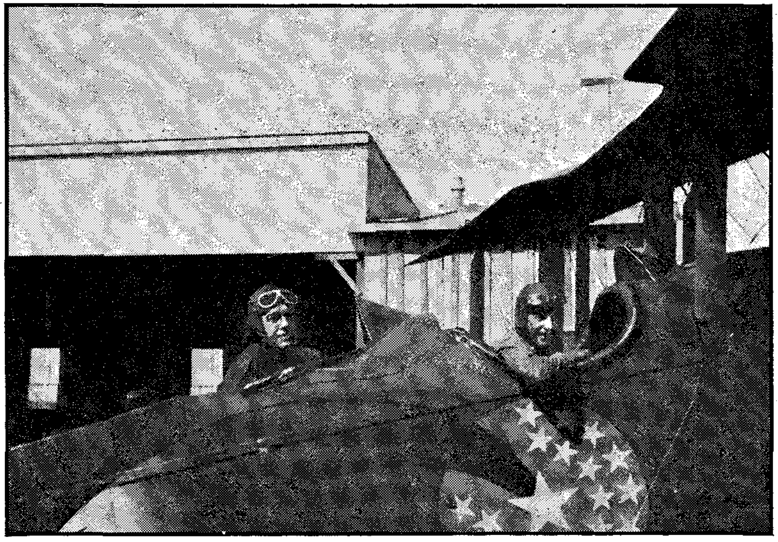
"The charge is buried sufficiently to keep the main force of the explosive wave in the ground. This means the charge may be buried five to fifteen feet. Large charges are spread out in a line of holes about five feet apart, and the charge is fired from the truck even tho it may be several miles distant. The firing of the cap breaks a circuit which instantaneously starts the film in the



HOW THE VIBRATIONS REBOUND AND REPORT THE LOCATION OF THE SHALE modulator. Thus the time it takes for the explosive wave to arrive can be measured.

"The operation of the whole exploration system is based on the behavior of stratified material when subjected to these elastic waves, as strata of different density and different texture will carry the waves at different speeds. Because of its porosity, surface material usually transmits vibrations much slower than do the underlying shales. Consequently, the waves can go down to the shale, travel through it, and arrive at the receptor before the waves arrive through the overburden.

"From some spot on the surface, both waves will arrive at the same time. The distance of this spot from the receptor is used in a formula which determines the depth of the shale strata below the surface.



Photographs by courtesy of *Popular Aviation* (Chicago)

AGRICULTURAL ECONOMISTS READY TO HOP OFF

To take a bird's-eye view of the crops.

"Of course, there are a number of things which complicate the process. Sloping layers, dipping of shale beds, water tables, and faults often require more detailed tests, possible changes in direction of the line of shots, and reverse soundings. These problems, however, all have been worked out by engineers.

"It is obvious that this system, giving as it does a complete picture of underground strata, is vastly more economical than the drilling system which determines structure by correlated mineral beds. It systematizes drilling for oil and is a factor in eliminating waste. In this way vast areas of quite definitely proved useless land have been eliminated from drilling campaigns."

NOISE AS AN AID TO WORK—A little noise may have much the same effect on a person as a cocktail or a cup of coffee; it may stimulate his mind and body to a higher degree of activity, asserts Dr. E. E. Free, in his *Week's Science* (New York). He tells us:

"Absolute quiet, which is what many noise-wracked city dwellers believe that they desire, might be the worst thing in the world for their efficiency. Like the supposed merits of fleas on a dog, a certain moderate amount of noise may be a useful stimulant for normal, successful human activity. So suspects Dr. F. C. Dockeray, Professor of Psychology at the Ohio Wesleyan University, Delaware, Ohio, who is studying the psychological effects of noise in cooperation with the Committee on the Elimination of Harmful Noise, a committee of the National Safety Council. It seems to be a general law of the human mind, Dr. Dockeray believes, that some outside stimulus is necessary to spur human beings to their best efforts. This stimulus may be provided, it is probable, by many things which, in greater intensity, would be harmful. Preliminary tests with normal individuals doing work in noisy and in quiet surroundings indicate that the best work is done when there is some noise, but not too much. It is not even impossible, from the psychologist's view-point, that city noise is a beneficial factor in stimulating the energy of the urban population."

CROP SURVEY BY AIRPLANE

"HOW'S CROPS?" THIS IS A QUERY of much moment, not only in the rural districts, but on Wall Street. The distributor and operator in grain must know the possibilities if he is to calculate the probable price accurately enough to keep the wolf from the door. Nearly a quarter of a million "crop reporters" are at work annually in this country, we are told by S. R. Winters, writing in *Popular Aviation* (Chicago). Before long, he thinks, at least part of this work is likely to be done by airplane. Recent government experiments indicate that the plan is practical and has its advantages. Writes Mr. Winters:

"It is a far cry from the crop reporter who travels in automobile, buggy, wagon, or even on foot, to the counter of our agricultural acres who, speeding aloft at 100 miles an hour, visualizes the extent and condition of corn, cotton, tobacco, hay, rice, etc., through the 'eyes' of an airplane camera. There are interesting possibilities in the use of aircraft for making acreage estimates.

"Counting crop acres by airplane is in the category with mapping from the air, sowing tree seeds, fighting forest fires, and spraying insecticides—that is, it is an adjunct to, rather than a substitute for, the older and proven methods. Where cotton, corn, tobacco, or other crops have been wrecked by hail, wind, or storm the airplane, for example, offers a speedy and relatively accurate means for measuring the toll. Similarly, where an inspection of crops during the growing season is desirable the flying-machine can make a sweeping survey and render information quickly. The Division of Crop and Livestock Estimates of the Bureau of Agricultural Economics has already experimentally applied the flying-machine to crop estimating—noting the extent and condition of the rice-fields of an entire parish in Louisiana; observed from aloft some of the cotton fields in North Carolina and Mississippi, and made a flying investigation of the damage wrought by leaf worms in Arkansas and Mississippi. And, again, a panoramic view of wheat and rye crops in Ohio.

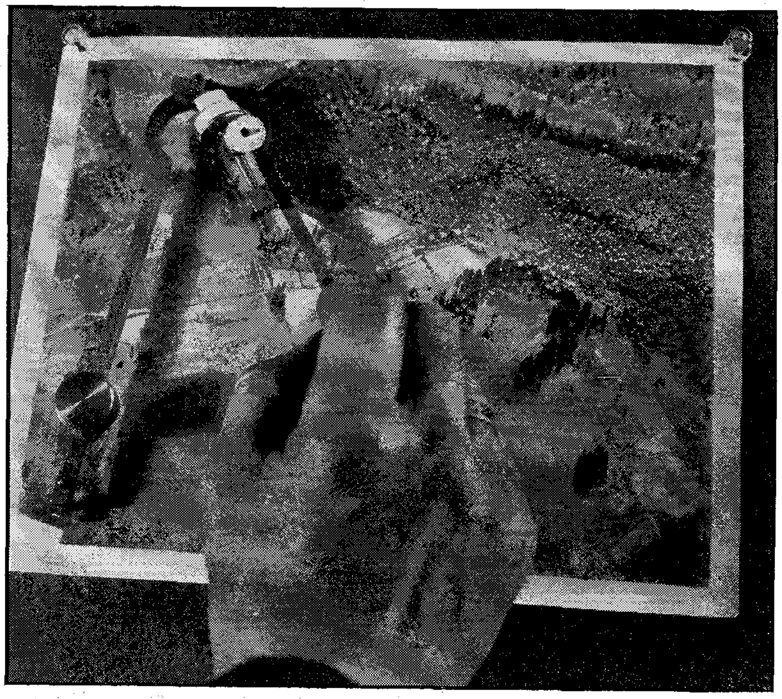
"'It seems preposterous that from an airplane traveling a mile a minute one may make a satisfactory inspection of fields,' notes Charles E. Gage, agricultural statistician, 'yet the experienced air traveler knows that when flying at low altitudes the opportunities for critical study are unsurpassed by any other method of travel. His sweeping vision may encompass whole fields, taking in detail and mass impressions not possible from ground inspection. If worms are present in numbers their presence is pretty certain to be revealed in the color and relative density of the foliage. In fact, the healthfulness of the crop, the clearness of the moisture condition of the soil, and more general factors, such as the progress of farm work, are most readily apparent.'

"The altitudes at which photographs are taken vary from 300 to 10,000 feet—the lower figure proving more satisfactory for minute studies. During a three hours' flight 500 square miles of crops were photographed. At an altitude of 10,000 feet a picture represents an area of about one and one-half square miles.

"Once the aerial camera has visualized crops of cotton, corn, hay, tobacco, and rice, there are two available methods for computing the acreage. The simpler is a field count of the various crops photographed and rough ratios are derived. The other, more complicated, is to calculate the actual area in each field photographed and arrive at ratios.

"How can a field of cotton irregular in shape be estimated with any degree of precision? A satisfactory answer to this question involves the use of an instrument known as a planimeter, designed for measuring plats of irregular dimensions. Resembling a compass, the planimeter is placed flat upon an aerial photograph, one point of the compass is stationary, and the needle-point of the other is traced in a clockwise motion around the boundaries of the fields. A friction wheel at the apex of the compass moves backward and forward, according to the direction in which the needle-point is moved, and this results in a reading on the scale in square inches.

"'The rather spectacular nature of crop estimating from airplanes,' cautions Mr. Gage of the Bureau of Agricultural



USING A PLANIMETER TO SIZE UP THE FIELDS

Economics, 'makes it subject to the danger of distorted press references, and the impression is apt to gain currency that the Department of Agriculture is proposing to substitute aerial photography for the older methods of acreage determination. To avoid this, we are always careful to point out that our attitude toward photographic surveys is the same as our attitude toward any other new idea for arriving at crop acreages which presents itself, namely, that we are interested in developing its full possibilities as an adjunct to or check upon our present method.'

"This word of caution by Mr. Gage finds a counter statement in his outline of the potentialities of the flying-machine for estimating crop acres. In fact, he is of the opinion that these potentialities may amount to 'superior opportunities' if three factors of air travel are taken into consideration. They are:

"(1). In looking down upon crops all parts of a field pass in review at approximately the same distance from the eye and at the same speed. In viewing the field from a train or car, the near-by rows pass at an apparent high speed, appear blurred, and more or less obstruct the view of other portions of the field. The difference is striking.

"(2). The area which may be inspected in a given time by flying is enormously greater than by any other mode of travel. This is important in times of flood, wind, or hail damage, when ordinary means of travel are interfered with and when a rapid inspection by a trained observer would forestall many wild estimates of damage sustained.

"(3). Whereas train window and automobile observations are severely limited, the air passenger may disregard highways and include the hills and dales in back of beyond.

"'This is an attempt,' concludes Mr. Gage, 'to outline briefly the legitimate scope of the application of airplanes to crop estimating work. As planes become more numerous and available, and the idea of flying becomes more commonplace, it is reasonable to assume that they will become more widely used in crop estimating and other activities.'

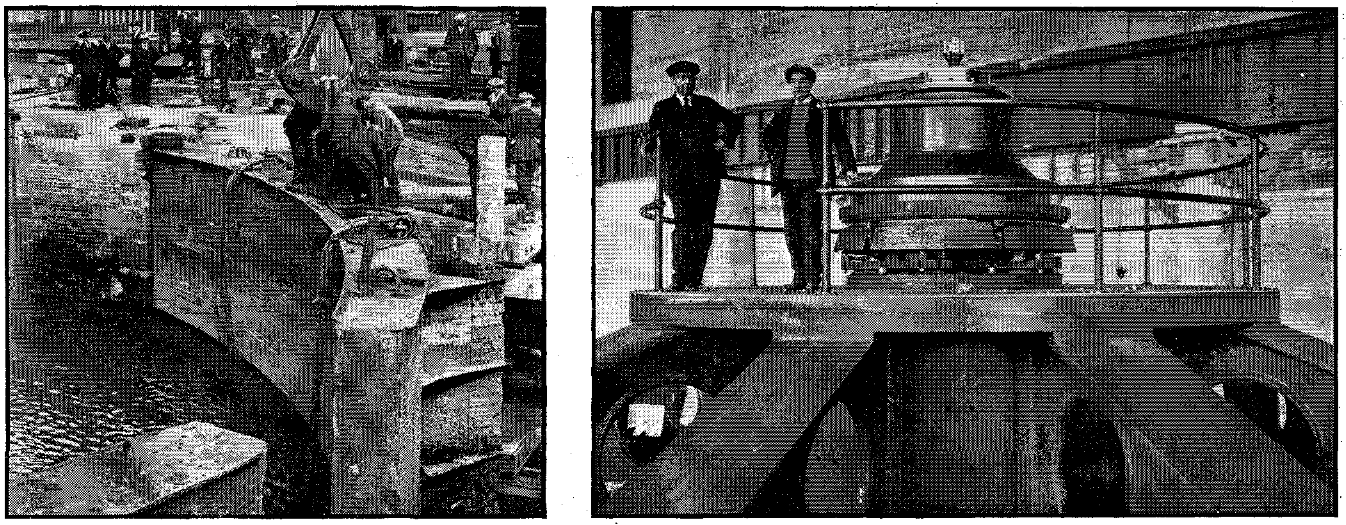
"'Aside from the use of airplanes in the manner described,' points out the Department of Agriculture, 'there is unquestionably a valuable field for airplane travel in the study of crop condition. B. R. Coad of the field station at Tallulah, Mississippi, has had occasion to use the airplane almost constantly, and has had an unusual opportunity to observe conditions throughout the crop season. He has emphasized the possibilities of studying the condition and stand of the crop, the state of cultivation, and the moisture condition of the soil. The effect of insect infestations and crop disease are clearly apparent, especially from altitudes of 300 or 400 feet to 1,500 feet. This fact, taken in conjunction with the immense territory that can be covered in a day's flight, is decidedly significant.'"

RICE FIELDS SNAPT BY THE CAMERA 3,000 FEET UP

Near Lake Charles, Louisiana. Note the shocks of rice.

A GRANDMA MULE—"Old Beck" is only an ancient Texas "cotton mule" mare, who has been on this planet long enough to vote, but she has done her bit toward breaking the age-old reproach of sterility leveled at her hybrid race. For she has not only borne offspring—two lusty colts—but now has a grandchild. For a mule to have a foal is an almost miraculous rarity, but for one of these to propagate is practically unheard of. Says Science Service's *Daily News Bulletin* (Washington):

"Yet this is the record of 'Old Beck,' as detailed in a forthcoming issue of *The Journal of Heredity*, by A. H. Groth of Texas Agricultural and Mechanical College. Her first offspring was a daughter, sired by a jack, and foaled in 1920. This feat brought her to the attention of the college authorities, and she was soon given a home on the campus. Subsequent matings with other jacks failed to produce another colt, but a noted stallion of the college stud sired a foal that has grown up to look quite like a horse—and a fine horse at that. 'Old Beck's' mule daughter has remained without issue, in spite of several attempts to breed her, but the horse-like colt, a stallion, has sired one healthy colt, now over a year old. Mr. Groth says of him, 'He has developed into a nicely balanced horse of saddle type. . . . He performs well under saddle, and is possest of remarkable intelligence. The only mule characteristic which he shows is his dislike for crossing a ditch or stream.'"



Illustrations by courtesy of *The Popular Science Monthly* (New York)

MIRACLES OF LUBRICATION

At the left is seen a mammoth dock gate in London, weighing 140 tons, which glides smoothly on a film of oil, and at the right is the bell-shaped bearing of a Niagara Falls hydroelectric unit which supports a million-pound weight whirling 100 times a minute.

FIGHTING FRICTION

NEW TRIUMPHS OVER FRICTION are described by George Lee Dowd, Jr., in *Popular Science Monthly* (New York). To quote his subtitle, Mr. Dowd tells us how "magic oil-films let industry's engines roar at amazing speeds." In fact, the art of lubrication has made great progress in recent years. Were it not so, the huge mechanical devices of to-day—lock-gates, the propellers of steamers, the armatures of great electric generators—could not be operated. Writes Mr. Dowd:

"Majestic in its towering rigidity, the largest dock gate in the world swings open to admit an ocean-liner. It is the most impressive feature of the new $35,000,000 Gladstone Dock, pride of Liverpool, England. Five hundred tons of steel, propelled by unseen machinery, recede silently and smoothly on massive bearings before the incoming vessel.

"That it should be possible to swing a veritable sky-scraper of metal is a miracle of modern engineering. It is one evidence of modern progress in conquering friction—the arch enemy of all moving things, the same grinding force that halts railroad cars with 'hot boxes' and scorches meteorites to incandescence.

"What is this strange force? Other forces, magnetism and gravity, for instance, are servants of man, driving his machines. But friction is a parasite. It preys upon the driving forces and wastes them. The second that a wheel or shaft starts turning, up leaps friction to stop it. No wonder, then, that engineers seek to harness friction in the brakes of motor-cars and railway trains—and to defeat it wherever it hampers industry. How well have they succeeded?

"Two barrels of oil flow every minute, as this is written, through the bearings of a great steam turbine in a Springdale, Pennsylvania, power-house, so that the rim of its fifty-seven-ton rotor can whiz at ten-mile-a-minute speed. At the Mount Wilson Observatory, in California, the world's largest telescope and its 100-ton mount swing without a jar upon the practically frictionless surface of a tank of mercury. And in each of the 70,000-horse-power hydroelectric units at Niagara Falls, largest of their kind, a single 'thrust-bearing' supports upon a film of oil the 1,100,000-pound weight of a giant generator armature and water-wheel—a weight that four of the world's most powerful locomotives could barely lift—and does it so smoothly that the whole mighty shaft, under the impact of tons of water, can whirl more than a hundred times a minute without danger of grinding its support to bits.

"Come with me into the engine-room of a great steamship. In the grip of the main bearing, the turning propeller shaft transmits the impulses of the engine to the screw. Into a hole in the side of the great bearing an engineer thrusts his hand, feeling the shaft to see if it is too hot. The oil is getting low, and he replenishes the cups from which it drips upon the shaft to form a protecting coat.

"Probably the mightiest bearings are those of tropical sugar mills, which must stand the grinding of huge rollers that crush the sap out of matted cane. Great journals of bronze are these, and oil is pumped in by powerful steam-driven compressors."

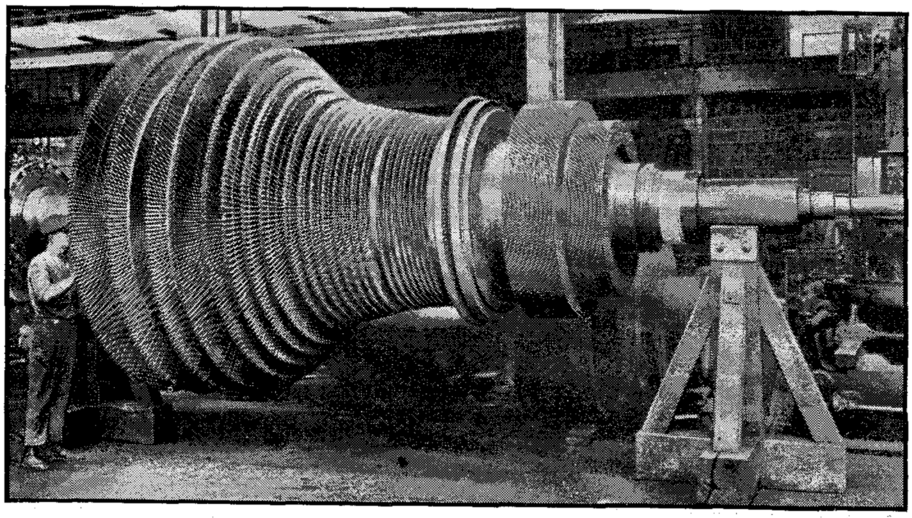
So, throughout industry, the fight never ends. Sometimes a whirling ring splashes oil over the bearing; elsewhere, wicks drip it on. Graphite, called the world's greatest solid lubricant, may take the place of oil when heavy metal surfaces grind together, as in automobile spring leaves. Ways have been found, too, to force lead and copper into porous graphite, forming an alloy of which "oilless," self-lubricating bearings can be made:

"Yet friction is not wholly a villain. You would miss it sorely, if by some miracle it were abolished. You could not step without fear of falling, for your shoes would act as if you had stept on a banana peel. Pocket matches would cease to light when you struck them. You might achieve the dream of a perpetual-motion machine—but you could not transmit its power by a belt, for the belt would slip.

"In your car, friction is put to work to grip the road through anti-skid tires and, at your command, stop the machine through fireproof asbestos brake bands. Iron grates on iron in the brakes of a speeding train. It would take twenty laborers seven days to accomplish as much work as the brake shoes do in a few seconds in stopping a thousand-ton express-train speeding sixty miles an hour; and the heat generated at the brake shoes would cook twenty dinners for the men."

What causes frictions? There are two kinds, Mr. Dowd tells us. The most familiar is that of rubbing surfaces upon each other. Apparently smooth surfaces seen through a microscope are not smooth at all, but covered with points and hollows. As they move over each other, the projections of one, where they become caught in the hollows of the other, are bent aside or torn off. That takes force, and the force is friction. That is why rubbing surfaces in machinery are made of unlike substances, such as steel and bronze, whenever possible, so there will be less chance of the projections on one fitting into depressions of the other. The second kind of friction is "internal"; it happens inside soft metal when you bend it, or inside water when you stir it. Strains set up between layers oppose the motion. That is why wire gets hot when twisted. The writer says in conclusion:

"Liquid friction is much less than that of solids. Therein lies the secret of why oil lubricates. A few drops between two rubbing metal surfaces form an 'oil sandwich.' Its outside layers are two thin oil-films—one on each surface. They adhere so strongly to the metal that tons of pressure can not squeeze them out. Between them is the 'filling'—a free-moving, liquid layer of oil. When the metals rub, oil slides on oil instead of metal on metal, and you have substituted the minor evil of fluid friction for the grating, burning friction of solid metal."



WINNING THE WAR ON FRICTION

At the left, two barrels of oil a minute in this 57-ton steam turbine rotor at Springdale, Pa., enable its rim to whirl at ten miles a minute! At the right, testing the temperature of a steamship's main bearing. The engineman thrusts his hand in to see if the propeller shaft is too hot.

SUBSTITUTE "TALKIE" TALKERS

THE SCREEN STAR WHO PHOTOGRAPHS WELL but can't talk will not have to lose a job when it comes to the "talkies." It is now possible to have the talking done separately and to fit the record exactly to the movie film. American films can thus be provided with French or German talk for foreign consumption, and "talkies" may be made in the open air—something now impossible because all sorts of extraneous noises are registered. Comic cartoon movie-drawings may be caused to talk in the same way. How all this can be done was described by the inventor, Edwin Hopkins, New York playwright and theatrical man, before the Society of Motion Picture Engineers, at its recent meeting at Lake Placid, New York. Mr. Hopkins calls his film with a substitute voice the "vivigraph" film, but he also suggests the general term "revocalized film" to describe it. He said, in part, as reported in *The Billboard* (New York):

"Thousands doubtless thought of the idea of combining the phonograph and cinematograph and producing talking pictures. Phonograph recording, however, until recently, required the speaker to stand so close to the recorder that no acting could be done. The sensitive microphone and audion amplification now enables the voice and movements to be recorded simultaneously. But when the film player has a poor voice or a foreign language version is desired the record must be made later.

"I first provided a cylindrical phonograph record built up of thin laminations, like a stack of thin washers. After recording sounds on such a record, if the sound lagged when exhibited with the film, it was because it came too far along the track. By taking out a thin lamination, prior to such point, an entire turn of the record's track was removed and the sounds brought up to the film. This was best accomplished in a soundless space between words. Where the sound comes too soon it may be pushed back by introducing a blank lamination, which puts in additional soundless track and delays the sounds. Thus by inserting and removing laminations the sound effects on the phonograph are adjusted to the motion picture and synchronism secured."

This is an operation of great practical difficulty and delicacy. The idea then occurred to Mr. Hopkins, he says, that it would be better to adjust the optical effects of the film to correspond with those of the record and leave the record intact. This is much more easily accomplished. He goes on:

"When the film optical effects run behind it is because the film, up to that point, is too long relative to the record. I then cut out a single picture or 'frame' of the optical film, or more than one 'frame,' and thus shorten it, which enables the optical effects to be reached at the same time as the acoustical effects of the record. Where the film effects come too soon I insert a duplicate 'frame' and thus lengthen the film, so that it will not precede the record. Thus, by cutting out 'frames' and inserting 'frames,' I redistribute the effects of the film to synchronize with those of the record. These changes are made in spots having no physical action on the film, in order not to cause jumps. It is better to make the film originally too long, so that only cuts have to be made, as it is more troublesome to make inserts.

"Each frame occupies about 1-24th of a second. This is an average of ten frames per spoken word. When a film gets behind several frames may be cut out which draws it that much ahead instead of merely to exact synchronism. It is more agreeable for the sounds to be sharp, or in advance slightly, than flat or behind slightly. It might be thought that a great many cuts would have to be made, but the number is much less than might be supposed.

"Actors playing talking pictures should perform before audiences at least 20 times prior to making the film. This number of performances is necessary to enable the actors to get their parts thoroughly mastered and to unify their team work. Then they are able to give what they like to call a 'performance.' Talking pictures of any kind should not be made until the players are thus finished in their work.

"In making revocalized films the optical players and the vocal players should each perform the piece separately until they are thoroughly up in it. After the optical players make the film, the acoustical players will watch the completed film and make the record. The synchronism will thus be very nearly effected, and with the film in hand, the film cutter, examining phonograph record, either a disc or tape, with a microscope, will cut out 'frames' of the film and bring it into synchronization with the record. The synchronism of the words of one set of players and the lip movements of the others will thus accord exactly.

"In the matter of foreign-language films, the revocalized film is indispensable. The only alternatives are to have American actors who can speak foreign languages perfectly or all foreign casts for face and voice. The first is impossible and the second would lose the values of the American film favorites.

"To make revocalized foreign-language films, the American actors must have a sufficient smattering of the foreign languages to make the proper lip movements. The foreign words must actually be pronounced before the camera, tho the accent does not matter. The foreign vocal actors, to whom the language is native, will then make the sound record, and the American vocal film will then be synchronized therewith by my process.

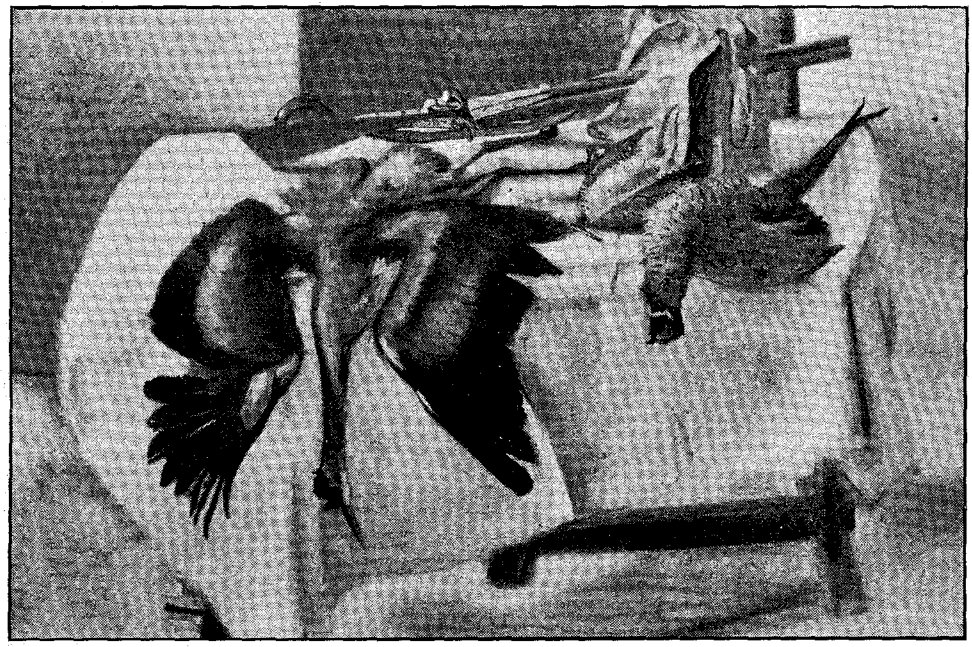
"The foreign actors will be on the set observing the American actors in order to thoroughly understand the action so that when they make the sound records they will understand the situation. The cost of the foreign negatives will not be great, as it will not involve any extra settings, and the foreign actors for the phonograph alone will not be unduly expensive. It will, however, create a considerable demand for foreign actors and translators, both in Hollywood and New York, and the speaking sequences may not amount to more than half the film. A vocalized sequence later run as a silent sequence is very dead and slow, so that revocalization for foreign language is necessary."

LETTERS AND ART

LITERATURE DRAMA MUSIC FINE-ARTS EDUCATION CULTURE

FRENCH ART OF TO-DAY

PITTSBURGH AND NEW YORK are indulging heavily in modern French art. "Modernist" is usually the word employed, tho "modernistic" might apply if used in the classical sense of the decline of the genre. For two years in succession, now, the first prize at Pittsburgh has gone to Frenchmen—Matisse last year and André Derain this—and most of our critics are expressing varying degrees of bewilderment. But the fact that three French pictures out of eight prize-winners were crowned, and the added fact that a successful show at the Wildenstein Galleries of Chester Dale's collection of French modernists is drawing crowds, sufficiently proves that Frenchmen are still in the saddle. The award to Derain, however, is regarded by Henry McBride of the New York *Sun* as "about the most puzzling thing that could possibly have happened." Recalling that Matisse, another modernist, won last year, he thinks that "this inclination in the same direction upon two successive years by totally different juries might indicate that the world has been definitely won for modernism or, at least, that academic institutions are being forced to capitulate to modernism." The only doubt, curiously enough, seems to hang round the person of the first prize-winner. Mr. McBride indulges his doubts only in this direction:



Courtesy of the Carnegie Institute, Pittsburgh

FIRST PRIZE AT PITTSBURGH

André Derain, the artist here represented, is the second French painter in two successive years to lead in prizes at the International Exhibition, a fact that seems to bewilder the critics.

> "André Derain won the prize. True enough. But he won it with a picture that is not in the least modernistic. It is a still-life study of wild fowl, posed on a table, with a gun. The composition is very sure and the brush work is the same. The date of it is non-decipherable, but quite evidently the work is an early one, when the artist was still in allegiance to the Ecole Normale, in which he was educated. It might have been painted by our own Twachtman, when the latter was young. That's how modern it is.
>
> "Now who is to shout over this award, the up-to-date, or those who refuse to be up-to-date? Obviously the question can not be answered until all the jurymen have been psychoanalyzed and made to divulge their secret thoughts while engaged in this action, and as psychoanalyzing in these days comes very high, and as, furthermore, the Carnegie Institute has already been put to considerable expense, it probably will not be done; and we shall be confronted indefinitely with a mystery.
>
> "Outwardly it would appear as tho all the jurymen had simply endeavored to secure a neat perch upon the fence, but such a position is always precarious since sharpshooters from both divisions of the arts will now proceed to take cracks at them. The interesting personages thus menaced are: Anto Carte, Colin Gill, Rockwell Kent, Ernest Lawson, and Homer Saint-Gaudens, ex-officio.
>
> "If this chief honor has been uncertainly bestowed, there is no doubt, on the other hand, that the tendency of the exhibition as a whole is clearly and openly toward modernism. Prominently placed in the French section are three flagrant and forceful examples of Picasso's manner, two of them being daringly abstract. Flanking these on either side are abstract paintings by Georges Braque and Marcel Gromaire. No such showing of the new things has ever before been made in Pittsburgh. There are also three by Marie Laurencin. Take it or leave it, but there is modern French art for you. Pittsburghers now may know the art that the young intellectuals of France consider heroic and epochal."

The same writer in another column of *The Sun* informs us that the rooms of the Wildenstein Galleries showing the Chester Dale collection of modernists are "almost uncomfortably crowded." One explanation he offers is that "there is a general desire to see really good examples of this art," and he continues:

> "The public knows by this time that considerable history has been made by a certain group of Frenchmen, and knows also that much spurious and unimportant work masquerades under the title of 'French Modern Art,' and so seizes every opportunity to come face to face with the genuine article. In the Chester Dale collection there is much that is not only genuine but highly distinguished.
>
> "It includes a self-portrait by Van Gogh that is an unquestioned masterpiece. Van Gogh's painful life seemed to vouchsafe him no intervals of softness. He was always battling merely to exist, and the means that might permit him to make the intense studies from models that he wished to make never were his. So in default of others he posed himself. His self-portraits are always among the greatest of his paintings, and the present one is as fine as any of the series in America.
>
> "By Cezanne there is a satisfying portrait of a youth, quiet, unhurried, unstrained, but alive; and the famous 'Still Life' that has already been so much admired by New Yorkers. Amadeo Modigliani, who becomes more favorably known as better examples of his style are brought to light, is represented by a superb 'Gypsy and Her Child.' By him also is a most amusing portrait study of Leon Bakst. By Picasso there is a small boy

acrobat that is charged with all the feeling that Picasso lends to such a theme.

"The rare Georges Braque signs a study of flowers, and there are fine canvases by Lhote, Marie Laurencin, Gauguin, Matisse, Marquet, Madeleine Luka, Toulouse-Lautrec, Utrillo, Vlaminck, and Zak. The reputation of the last-named painter mounts steadily, like Modigliani's, and is gained chiefly by the collectors themselves, who note that the Zaks always command attention in mixed collections."

In the introduction to the catalog, Mrs. Dale gives a succinct account of French art that has changed its nature but not its title to "modern" since the beginning of the last century:

"Every century has its 'Modern Art.' The nineteenth century in its first half had its Courbet, Manet, Monet, Degas, now considered classical. They were the inspiration for the second half of the century to great masters like Cezanne, Van Gogh, Gauguin, Toulouse-Lautrec. These again are the inspiration for the 'Modern Art' of our days.

"Unfortunately, a great amount of contemporary painting is only a copying of the more striking mannerisms of these older men, that goes no deeper than the surface. This much is now being taught in classes to the young student by rule and formulas, while it is all too evident that Cezanne, Van Gogh, Gauguin, and Lautrec, if they were alive to-day, would not be thinking in the rules or formulas of the men of fifty years ago.

"A century of machinery and the last war have changed the world around us, the rhythm of life marks a different time and things are being accomplished with an accent that is rather more divine than Victorian.

"The importance of any art to-day is just in proportion to how nearly it serves to interpret the emotional reactions of the man of to-day, for art that is modern has given up merely painting his appearance. This has become the business of the camera, which does it perfectly.

"Realism in art ran a race through the nineteenth century with the camera, and the camera won, while our realistic writers founded their observations on psychology. Realism has become a part of man's more informed and honest manner of thinking about himself and life's eternal problems.

"Cezanne, Van Gogh, Gauguin, Lautrec, all of them appearing at the same time, painting in their very different ways, as it had not been done before, an art that was above everything emotional, should have been warning of a coming change. Emotion is the ferment working in men's minds that means change, and it takes a very great deal of emotion to produce a very little change. It was not, however, until Matisse stept off into space that the thing became a glaring fact impossible to ignore.

"Matisse, with Derain, Friesz, Vlaminck, and, later, Braque, had been experimenting in color complementaries and contrasts between the years 1900-1906. The result was that triumph of pure color called Fauvism. Fauvism proved to be only a part of their evolution and the evolution of color through Impressionism, Cezanne, and Seurat. These men had no intention of remaining bound by color alone, and after 1906 they developed in quite different directions.

"They did not try to paint like Cezanne or the others, but they took up their thoughts and carried them along into the world of steel and speed to which they were born.

"Derain's further experiments were in questions of form. His art has become very ordered and meditated. He has acquired all the qualities necessary to make a fine portrait-painter, altho he seems determined to resist the temptation.

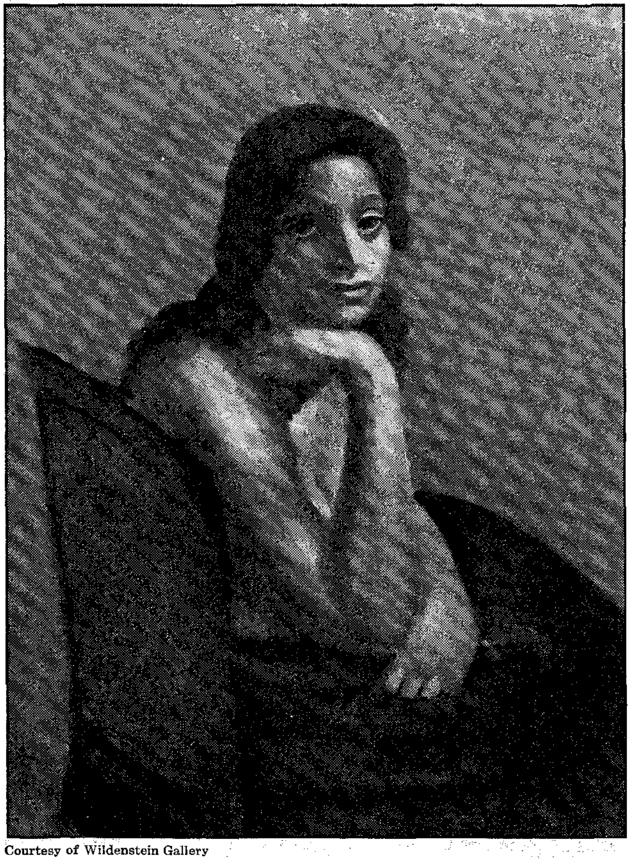
"Friesz became interested in line and composition, while Vlaminck, like another Jove, found his emotion in a nature threatening, and often violent. In his heavy, changing skies there is always a menace that he paints with great force and grandeur.

"In 1907, Matisse, keeping only those essentials of his subject necessary to explain what motive he had chosen for the rhythm of his picture, painted in line and color that simplest of all emotions, the joy of life, possible to every living thing. Having chosen an emotion, and not an object, as the subject of his canvas he was at liberty to search within himself, and let his eyes be a camera for his emotions.

"Between the years 1906-1912 Picasso, Braque, Lhote, found a further means of escape in the cube, the cone, the cylinder, that Cezanne had insisted upon as the foundation of form in art.

"Picasso had a different and more difficult story to tell than Matisse. It was not the joy of living but that other side of man's emotional life that had come to him through El Greco, Daumier, Millet, Degas, and Toulouse-Lautrec—man in his sufferings, unable to walk tranquilly with his burden of despair. Daumier, great artist that he was, could have told this story without all the anecdote the public a century ago found necessary. In Millet the story was simplified, and even more so later, in Degas and Lautrec.

"Picasso, Braque, and Lhote in cubism cut the subject up, and all but cut it completely out of the picture. This was a necessary operation for the public from which they are now being permitted to recover, in the hope that they are cured.



Courtesy of Wildenstein Gallery

DERAIN IN ANOTHER MOOD

"He has acquired all the qualities necessary to make a fine portrait-painter," says Maud Dale. "altho he seems determined to resist the temptation." This example is in the Dale collection.

"Picasso paints a mysterious and often tragic poem of poor humanity. In the nervous sensibility of his 'Harlequins' he achieves a something beautiful, pathetic, and melancholy, that not only dominates the picture but is its reason and its end.

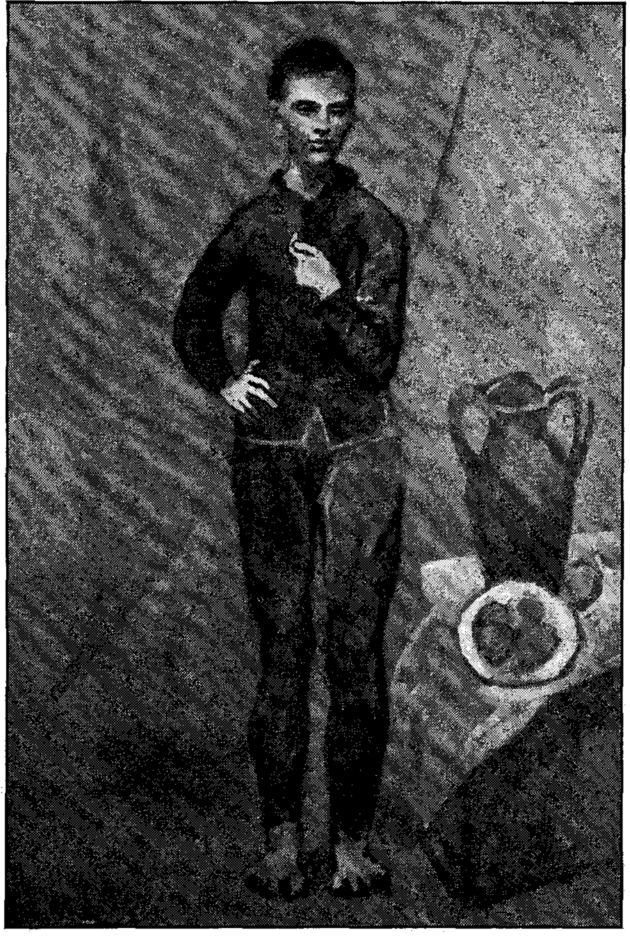
"Braque, by a happy instinct that has now become a principle, succeeds in his geometrical combinations and his arabesque fantasies of flowers and of still-life in presenting their forms with surprizingly little deformation and a very great deal of decoration."

THE COVER—The painter of "Lorraine," which appears on the cover this week, was born in New York City, where as a lad he spent a winter in the studio of William Hart, N. A., under his instruction. Later he studied at the schools of the National Academy of Design and the Art Students League, after which he went to Paris and entered the Académie Julien.

Mr. Whittemore has exhibited widely in America, and a picture of his in the French Exposition of 1889 won a silver medal. He is an associate member of the National Academy of Design, and a member of the American Water Color Society, the American Society of Miniature Painters and the New York Water Color Club. In the past twelve months, he has taken the Lloyd C Griscom prize at the American Water Color Society, the Isidor Prize at the Salmagundi Club and the Joseph Lewis Weyrich Memorial Prize at Baltimore. Children have been the subjects of many of his portraits, which are usually treated in a pictorial way without sacrifice of likeness.

TOLSTOY'S WIFE IN HER DIARY

FURTHER REVELATIONS OF THE INNER LIFE of the Tolstoy family come from Moscow in the publication there of the diary of the sage's wife for the years 1860-1891. New light is said to be cast on the family dissensions which darkened the last years of the author's life and led to his flight from home to die almost alone. In an article in the London *Observer*, a Moscow correspondent informs us that "Countess Tolstoy reveals herself in the diary as an intensely emotional, highly strung woman, predestined, perhaps, to love and unhappiness." The dominant note of her writing is said to be jealousy—"not ordinary physical jealousy, but rather an all-consuming possessive passion and hostility on his past, on his friends, and, finally, on his changed world outlook, which she could not share." Tolstoy apparently prepared the ground for her feeling by giving his young bride the diary of his former life, which has never been described as puritanical, and the impression she received is indicated in her entry in the diary two weeks after her marriage:



Courtesy of Wildenstein Gallery

"BATELEUR," SO-CALLED IN FRENCH

He performs as juggler or tight-rope walker in the open. Picasso, who created him, "paints a mysterious and often tragic poem of poor humanity." From the Dale collection.

"'All his past is so terrible to me that it seems I shall never reconcile myself with it.'

"And on November 23 of the same year her possessive jealousy finds another form of expression:

"'I am tired of him with his people. I feel that it is either I, as the representative of the family, or the people, with burning love for him, Leo. This is egotism. Let it be. I live only for him, and I desire the same thing for myself.'

"In succeeding years outbursts of protests against what she regards as her husband's indifference ('Leo simply destroys me with his complete indifference and absence of any participation in what affects me') alternate with strong, half-fearful protestations of love, such as one finds in the diary for July 31, 1868:

"'Soon I shall have been married six years. And I only love more and more. Often he says that this is not love—that we have so lived together that one can not be without the other. And, nevertheless, I love him restlessly and passionately and jealously and romantically, and his tranquillity sometimes grieves me.'"

Tolstoy's first religious and philosophical transformations are noted in the entry of December 26, 1877:

"The character of Leo Nikolaevitch (Tolstoy) changes more and more. Altho he was always modest and unassertive in all his habits now he becomes still more modest and patient. And this eternal struggle, which began from youth, for the objective of moral self-completion is being crowned with full success."

But his changed views, it appears, destroyed the harmony of the household:

"His wife did not share his new sense of the essential wrongness of private property, his feeling of moral responsibility sometimes rising almost to a sentiment of personal guilt before Russia's tens of millions of opprest and poverty-stricken peasants. The compromise by which Tolstoy turned over the management of the Yasnaya Polyana estate to his wife may have held the family together, but it placed a fatal strain on the already difficult marital relations. The rôle of an unappreciated Martha is never very agreeable for the person who assumes it, and it proved peculiarly intolerable for the nervous, highly strung Countess, who was already laboring under a sense of neglect and injustice. She states her side of the case vigorously in her diary for October 25, 1886:—

"'All the people in the house, especially Leo and, after him, like a flock of sheep, all the children, impose on me the rôle of a whip. Having cast on me all the weight of responsibility for the children, the estate, all money matters, education, the whole management of affairs, and everything material, profiting by all this more than I myself, they come to me with cold, matter-of-fact faces to ask a horse for a peasant, money, flour, etc. I am not occupied with agriculture—for this I have neither the time nor the knowledge—I can not give orders, not knowing whether horses are necessary for farming at the present moment, and these matter-of-fact requests, combined with ignorance of the state of affairs, confuse and irritate me.'"

Tolstoy's disciples proved another thorn in the side of his wife:

"Like every great teacher, his personality and views inevitably attracted, along with sincere idealists, a certain number of eccentric persons and some mere hunters after sensation and curiosity. The Countess makes little distinction among them; she is almost morbidly jealous of all these new figures in her husband's life; but her observations on the Tolstoyans are sometimes characterized by the vividness that often marks sketches of persons whom one dislikes. On July 19, 1887, she writes:—

"'How unsympathetic are all the types which adhere to the teachings of Leo Nikolaevitch! There is not one normal man. Most of the women also are hysterical. Marya Alexandrovna Schmidt has just left. Formerly she wanted to be a nun; now she is an enthusiastic devotee of the ideas of Leo Nikolaevitch. When she meets or parts with him, she weeps hysterically.'

"And on December 17, 1890, she writes:

"'Dark figures have come: the stupid Popov, an eastern, lazy, weak man, and the stupid, fat merchant Khokhlov. And these are the disciples of a great man! Pitiful offspring of human society, talkers without professions, lazy people without education.'

"One can not read through the diary of Countess Tolstoy, sometimes hysterical and bitter, but always intelligent and often sympathetic, without feeling that the sorrows of Tolstoy's later years can not be reduced to such a simple formula as the conflict between an idealistic philosopher and a selfish and worldly woman. The situation possest subtler and more irreconcilable elements of tragedy, worthy of embodiment in a great novel or drama; there was a clash of human personality and world outlook in which neither individual may be pronounced wholly guilty or wholly guiltless. Tolstoy's flight was his most eloquent expression of his side of the case; his wife's is perhaps to be found in this poignant excerpt from her diary of December 11, 1890:

"'If the salvation of a human being, the salvation of his spiritual life, lies in killing the life of the one who is nearest him, then Leo is saved.'"

TO REFORM SCREEN KISSES

THE EXCITEMENT OVER THE PROSPECT of hearing the movies talk hasn't dealt much with the problem of what they will say. We have worried, as have the actors themselves not a little, about how they will say it, but what—that has been neglected. When crucial scenes come on the silent screen even the continuity writer is silent. The climax of the love-scene is that gulping kiss, and the preliminary instant in each case seems to give evidence that the lovers intend to swallow each other. It is a relief to see some of these features of the film drama discust at last in the *Film Spectator* (Hollywood), and it is not less interesting to see that the words proceed from "*The Spectator's* eighteen-year-old critic," Donald Beaton, who treats the subject with vigor:

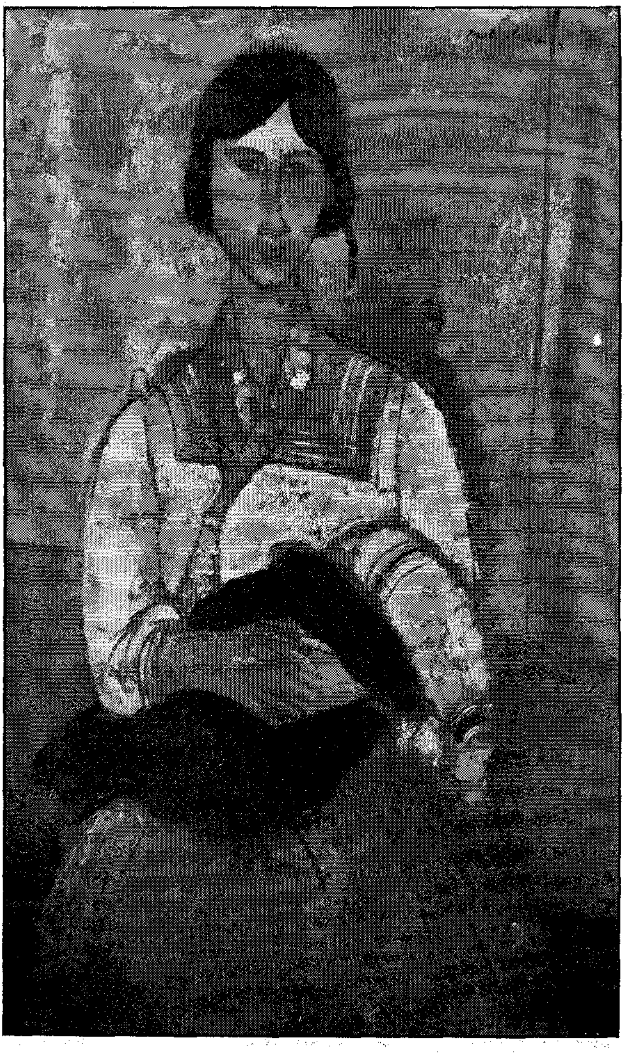
"My biggest objection to the present method of putting love-scenes on the screen is the long, disgusting kisses which seem to be standard equipment with our best motion-picture lovemakers. The kisses aren't so bad at a distance, but they look terrible in a close-up. Every time I see a couple dive into a clinch with their mouths open, it makes me sick. A smile or a hand-clasp can prove just as much mutual affection if it is done correctly, and it is much better to look at. That very rarely is shown on the screen. Naturally, there are different kinds of love-scenes, because a couple of country bumpkins can't be expected to make love in the same way as a pair of sophisticated society people. The Gaynor-Farrell team and the Garbo-Gilbert combination both are recognized as great lovers, yet they are absolutely different.

"Directors always make me furious when they get their two principals and move into a beautiful garden or something for the love-scenes. It is such an obvious attempt to get gasps of admiration from the audience that most people don't fall for it any more; it defeats itself by its own eagerness. Beautiful locations are all right when they can be brought in naturally, but not otherwise. A director who can't make a love-scene beautiful without an artistic background doesn't deserve his job. Anyway, the two people are the things the audience is interested in, and it is not a good idea to have their attention distracted by a lot of roses or something. Neither is it a good idea to shoot the scene in close-ups against a screen or backdrop. A happy medium should be struck.

"When sound enters the love-making game, an entire new technique will have to be absorbed by the actors. It will have to be well done, because audiences have a peculiar way of regarding spoken love-scenes as intensely humorous, and the least little mistake causes much hearty laughter. However, another happy medium must be struck. A man in love doesn't make long, flowery speeches when with the female of his choice; he is more apt to be stricken dumb; at least when he is trying to speak of his great affection. It's silly but true. Therefore, I hope that none of the dialog writers springing up hither and yon will put a lot of beautiful rhetoric in the mouths of their ardent swains. A few clumsy words, if uttered with sincerity, are much more convincing than all the well-written speeches in the world. The thought of hearing, as well as seeing, all these sticky kisses is terrible, but there may be some machine invented which will cut them out."

Elsewhere in *The Spectator* some examples are given:

"Take two romances, one in 'Mother Knows Best,' and the other in 'Romance of the Underworld.' Each romance is developed with the best of taste, is tender, sweet and appealing. When that in the former picture reaches its culmination in a betrothal, Madge Bellamy and Barry Norton are shown in a huge close-up, their lips glued together in a long and passionate kiss. When the other reaches the same point and Mary Astor agrees to marry John Boles, he takes her hand and kisses it tenderly. Both scenes tell the same story: that the girl is going to marry the boy. The one tells it blatantly and vulgarly, and the other tells it tenderly and delicately. The girl in the former is a sheltered and innocent daughter of a mother who has guarded her carefully; we make our acquaintance with the other in an underworld dive where she hands her wages to a cheap crook. We have a right to assume that it is the sheltered girl's first kiss, yet it is part of an embrace distinguished alike for its passion and its lack of delicacy. It is totally out of keeping with the manner of the romance that led up to it. The story value of the kiss lies in the fact that it occurred as a symbol of the plighting of a troth. To endeavor to interest us in the passion the lovers display is to introduce an element that has nothing to do with the story, even if it were done with good taste. This is true of practically all screen romances, the only exceptions being those in pictures that are frankly sexy. Every director in Hollywood has shot more love scenes than he has scenes of any other kind, yet in very few pictures that I have seen recently have there been love scenes that reflected credit on those who directed them. I object constantly to close-ups of kisses on the ground that they are vulgar and disgusting, but their only weakness is not one of esthetics. In practically every instance the only matter of importance to the audience is the story value of the kiss as a fact, yet practically all directors present them on the theory that the sole feature of the kiss that is of interest is the degree of facial distortion it causes. Motion pictures constitute the most respectable form of entertainment that is provided the public, something for which the public itself, not the producers of the pictures, is responsible. Censor boards have been wise in limiting the length of kisses, while producers have been unwise in putting unlimited vulgarity in the short length permitted them.



A GIPSY WOMAN

By Amadeo Modigliani, who, tho Italian, belongs to the modern French School. One of the pictures in the Chester Dale Collection.

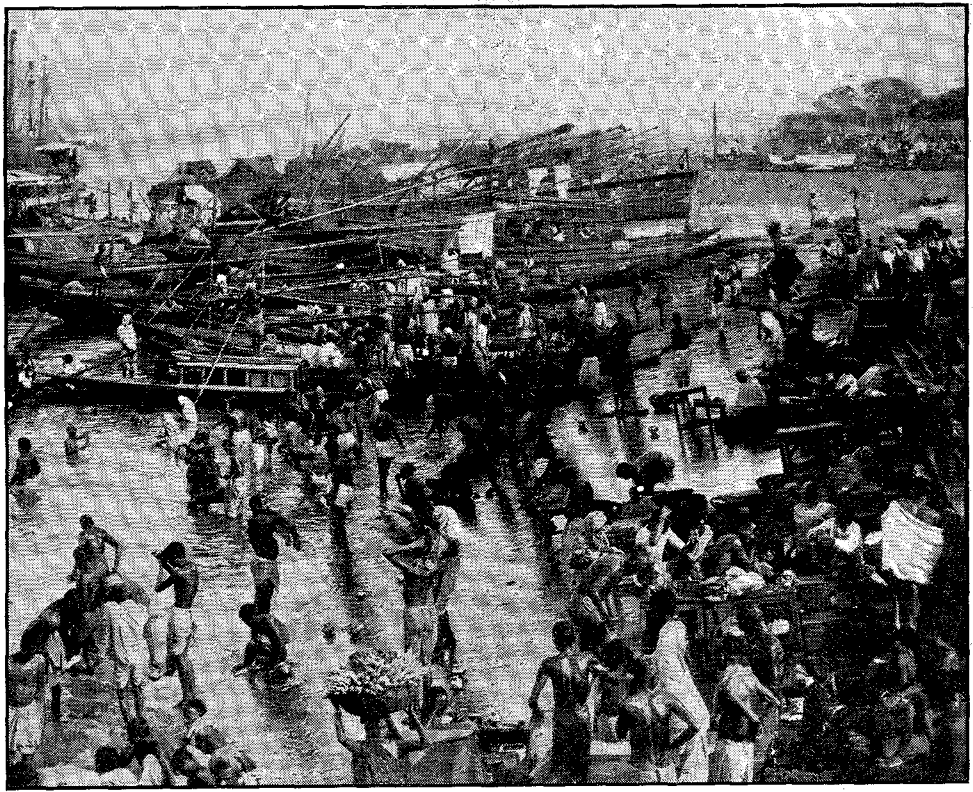
"Close-ups of kisses are about the last stand of vulgarity and commonness in pictures. They coarsen romances that should be beautiful; they please 1 per cent. in audiences and disgust 99 per cent. Their inclusion in pictures is due to the fact that the majority of our directors lack the fine sensibilities that should constitute the major portion of their equipment for their jobs. Such directors can not see any vulgarity in a close-up of a kiss. To the vulgar mind vulgarity is a normal manifestation that is not recognizable for what it is.

"In 'Mother Knows Best,' we have scores of examples of nice little touches that reveal the fine sensibilities of the director, yet when he comes to the culmination of his romance, he goes movie, takes his romance out of the atmosphere of sweetness and delicacy in which he has reared it, and makes it vulgar and stupid."

RELIGION · AND · SOCIAL · SERVICE

CHRIST WINNING THE HINDUS

THE HINDU PEOPLE WILL YET ACCEPT CHRIST, tho, paradoxically, they challenge Christianity, asserts a British writer and religious teacher who has spent a large part of his life in India and has observed a tremendous change in thought the Hindus are undergoing from their impact with the Western World. Put briefly, Hindu religious thought still sticks to the form of its ancient faith, but it is definitely moving away from polytheism to monotheism, and is silently accepting Christ as the world's greatest religious teacher, without yet accepting the Christian movement, which it regards as a foreign force, destructive of the Hindu faith and culture. This interesting contribution to our knowledge of what is going on in that land of conflicting faiths and emotions comes from Dr. J. N. Farquhar, Professor of Comparative Religion at Manchester University, writing in *The Hibbert Journal*, an English quarterly review. He is well aware, he writes, that at least 95 per cent. of the educated men and women of the Hindu community are definitely hostile to the upbuilding of the Christian Church in India, yet he found in his own experience that Hindus seeking relief from their doubts and despairs turned definitely to Christ as a source of comfort and revelation. "Jesus," he says, "is the healer of all the diseases of the Hindu heart and soul, and apart from Him the awakened soul can not find pardon, peace, and spiritual healing." During the last nineteen centuries, points out Dr. Farquhar, there has been a vast movement of the human family out of polytheism into monotheism, and, altho Hinduism is actually a polytheism, practically every educated Hindu calls himself a monotheist and expects to be recognized as such by Moslems, Zoroastrians, and Christians. This he regards as clear proof that, as modern men, the Hindus "can not acknowledge themselves polytheists, but must represent themselves as worshiping only the one God of the universe. Thus the educated mind of India has already moved a long lap away from Hinduism in the direction of Christianity." Further evidence for Dr. Farquhar is that—



Ewing Galloway photograph

CLEANSING BODY AND SOUL ACCORDING TO HINDU RITE

The photograph shows Hindus swarming into the Hoogly River to bathe, as their faith requires. Tho they still practise their ancient rites they are, we are told, gradually turning to Christ as a source of comfort and revelation. "The educated mind of India has already moved a long lap away from Hinduism in the direction of Christianity," and many important social reforms have resulted.

"In India during the last 100 years practically every form of Hinduism, and also Zoroastrianism and Islam, have come under Christian influence so seriously that some thirty fresh religious organizations have been formed, each created with the definite purpose of leavening the old religious system with just so much Christian and modern reform as shall enable the constituency to weather the serious storms in which the new ideas and practises of the Church and the advance of modern thought have involved the educated classes in all parts of the country. Perhaps the Brahma Samaj, the Prarthana Samaj, and the Arya Samaj are the most influential of these movements, but all have proved vigorous and effectual in varying measure. They form the second and perhaps the most noticeable indication of the extraordinary impact of Christianity.

"The truth is that in these movements Christianity is omnipresent. All teach either monotheism or some form of theology which can be drest in monotheistic robes. God in each is called the Father of men; and the brotherhood of all men is emphasized, even in those organizations which represent Caste as a most healthy form of community life! Idolatry is in most cases abandoned; but some leaders defend it and use it. In a number of these organizations one finds, instead of temple-worship, a religious service, consisting of prayer, praise, readings from a sacred book and exhortation, precisely like a simple Protestant service. The methods of propaganda used by these groups are in all cases copied from Christian Missions. Here, then, is Christian influence being disseminated by Hindus through their own defensive organizations."

Great social reforms which have been introduced during the past 100 years, partly by law, but mainly through changes in public opinion, also are witness to the influence of the Christian Gospel. Dr. Farquhar sets down the more notable of these reforms, thus:

1827–35.	Female infanticide put down by Lord Bentinck.
1829.	Widow-burning prohibited.
1829–36.	The Thugs, an organization of robber-stranglers, put down.
1848–56.	Obscenities connected with Hinduism prohibited.
1856.	The first Widows' Home organized by Missionaries.
1856.	Hindu Widow Remarriage legalized.

1860–70.	Child-marriage, polygamy, enforced widowhood, caste, all repudiated by the Brahma Samaj.
1872.	Brahma inter-caste marriages legalized.
1875.	The founder of the Arya Samaj opposes child-marriage.
1887.	The first Widows' Home organized by a Hindu.
1891.	The minimum age of marriage for girls fixt at twelve.
1903.	Hindu opinion roused on the subject of the Outcastes.
1905.	Mr. Gokhale organizes The Servants of India Society.
1906.	The Deprest Classes Mission formed by Hindus to help Outcastes.
1908.	The Seva Sadan organized by Hindus to serve poor women.
1909.	Hindu protest against the tonsure of Hindu widows.
1913.	Act for the better protection of girls.

Most of these changes, points out the writer, are, on the one hand, inconsistent with the rules and customs of the national religion, but, on the other, are all in full accordance with the teaching and the spirit of Jesus. Again:

> "About one-sixth of the whole population of India, i.e., a mass of humanity larger than the whole population of Great Britain and Ireland, are Outcastes, i.e., people of such low origin and culture that for more than 2,000 years Hindus have regarded them as too foul for ordinary human intercourse. They have thus been kept outside the Caste system, and Hindus take care not to touch them: hence they are frequently called 'The Untouchables.' The result of this severe and long-continued ostracism had necessarily been that these poor people have made no progress, but remain gross, unclean, uneducated, untrained, with only the slightest rudiments of culture to this day.
>
> "Christ soon fills these people with another spirit: they become new men and women; they cultivate cleanliness, take a pride in their houses, and eagerly seek education for their children. Above all, their character at once begins to rise and expand in the love and sunshine of Christ. Hindus frankly recognize the very great value of the influence of Christ in their case; and the Christianized Outcaste is no longer treated by Hindus as an Outcaste. In many a Christian high school the son or grandson of an Outcaste holds a good position as a teacher, and frequently has Brahman boys as pupils. Thus does Jesus 'lift up the needy from the dunghill.'
>
> "In every section of India one meets numbers of educated Hindus who are imprest with the character of Jesus, and some of them use the Lord's Prayer and read from the Gospels daily. I have met Hindu fathers who read selected passages from the Gospels with their children daily. Every Christian educationalist in India knows Hindu parents who send their children to Christian schools that they may have the ethical teaching of Jesus planted in their hearts from their earliest years. Yet these men do not intend to become Christians themselves or to make their children Christians."

The educated Hindus detest the Christian movement because they fear it will destroy their own ancient faith and culture. "But Jesus is no destroyer," says Dr. Farquhar:

> "He comes 'not to destroy but to fulfil.' Did He destroy the glories of ancient Greece when the Greeks fell at his feet? Nay, it was chiefly through the Church of Christ that during the early centuries the culture, the thought, and the literature of Hellas were carried to all the nations of Europe, Eastern Asia, and Northern Africa. European culture rests primarily on two foundations, Christ and Hellas. Many other nations have contributed to the rich stream, but these are the fountains.
>
> "When the great overturning will come, I do not know. I do not expect it in the near future, but that it is coming, I can have no doubt. The Christian forces which are now working for the regeneration of the Hindu people will inevitably grow in strength and will produce still larger results as the decades pass."

ADVENTURING FOR THE BURMESE BLIND

WHAT FATHER DAMIEN was to the lepers of Molokai, the Rev. W. H. Jackson, or Father Jackson, as he prefers to be called, is to the blind of Burma, for whom he often risks his neck. For eleven years, we read in *The Living Church* (Episcopal), he has been director of the Burmese Mission to the Blind. Now he is on furlough at his home in Greenwich, England. "In Burma I live according to the ordinary standards of my 150 blind boys and girls," he said to the English correspondent of *The Living Church*. "I wear Burmese clothes and eat Burmese food, which is over 90 per cent. rice, plus curry with ngapi, a sort of fish paste made from very high fish and chili, which most Englishmen won't go near." He has learned to find it fascinating. "It is not every Westerner, however, who finds he can live on such a diet," he says, "and it took me long to do so. I do not wear a hat, and have never suffered from sunstroke, and tho I go everywhere barefooted and have often trodden on snakes, I have never been bitten. I confess, however, I can not sleep with only a wooden or bamboo pillow, as the Buddhist priests do."

Ewing Galloway photograph

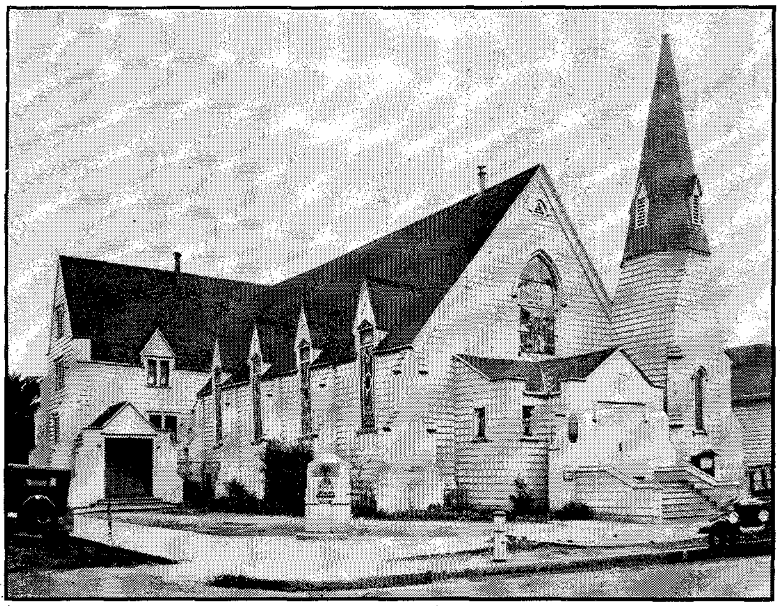
OVERCOMING THE FLESH

A Hindu devotee of Hali, the Goddess of Torture, lashing himself with a heavy whip to conquer fleshly desires. Many ancient and barbarous Hindu rites have been eliminated through Christian teaching.

The work among the Burmese blind was begun by the Rev. W. C. B. Purser of the Society for the Propagation of the Gospel, Father Jackson's brother-in-law, and after he had attended the Normal College for the Blind, Norwood, and Wadham College, Oxford, Father Jackson was asked to go to Burma to help Mr. Purser. "I went for three years," he said, "and have stayed there ever since. The incidence of blindness is terribly high in Burma, for there are 25,000 blind out of twelve millions. It is due," he says, "not only to disease, but to glare and dust, and the doctors finish it off. The latter try all sorts of 'cures,' even red-hot irons, and the temporary counter-irritant is effective sufficiently long for the patient to get relief and the doctor his fee, but meanwhile the membrane is destroyed. At least 77 per cent. of the cases would have yielded to proper treatment." Through the Blind Mission, Father Jackson has started industrial schools which make all sorts of basketware for government and business concerns, and he has succeeded in adapting Braille to a phonetic Burmese script, which his boys, we are told, are able to read faster than scholars with sight read ordinary books. He hammered out the matrices for the first Braille books himself on old petrol tins. The Government has granted him a pass over all the railways, so that he can visit the blind far and wide. He takes with him on his journeys, as a guide, a pupil who is only partially blind. "The only thing which really troubles us," he said, "are the bridges. These are usually a single bamboo, six inches to a foot in diameter. Most Burmans try to take such bridges at the run. I am afraid I can't do that, and I confess I have sometimes had to descend to a mere straddle."

THE CHURCH NOT SO FUTILE AFTER ALL

"IF THE CHURCH IS AS FAULTY and futile as your picture paints it, why do you remain in the ministry? And how can you continue to urge others to come in?" The questions are put to Bishop Charles Fiske, of the Episcopal Diocese of Central New York, who has been one of the frankest critics of the Church; but they have probably occurred to many others as they pondered the criticisms of the Church leveled at it from within its own ranks. "If we criticize," replies Bishop Fiske in *The Atlantic Monthly*, "it is with constructive purpose. We are so committed to the Christian program, and so convinced that it can be realized only by corporate action and in a corporate life, that when we see the Church failing in its purpose, it hurts, and we can not but show our pain and shame."



Keystone View Company photograph

ALL FROM ONE REDWOOD TREE

"But we still cling to the Church idea, and we are convinced that only as Protestant America returns to that idea and ideal will there be renewal and regeneration of religious life. In America, the notion has become general that the churches are mere convenient agencies of Christian effort, to be accepted when desirable, changed at whim, or even deserted in disgust. They are 'amorphous aggregations of individual souls,' societies through which 'a set of views may be promulgated, and a more or less incoherent and unstable set of views, at that.' Against such a view of Christianity we protest with all our strength. We stay in the Church because we believe in its divine character, while recognizing its human faults. Our criticism, therefore, is something more than whining complaint or pessimistic despair. We point out weaknesses in the hope of arousing a 'divine discontent' which will lead to the restoration of the ideal in which we still have strong faith."

Indeed, even as a human institution, one can not feel that the Church is a failure, says Bishop Fiske. "After all, I seem to see an effect upon the general life of its members which, far as it falls short of what we desire, is greater than the results effected by any other human institution."

"Yes, there are improved standards of Christian life appearing just over the horizon, and the Church is responsible for the change with the dawn of the new day. Religion to-day is more strong, more powerful, more sane, and not less devout, than the religion of our grandparents, because the Church has looked more closely into the life of the human Christ. The change of social attitude is due to the same influence. With all its faults, business is less brutally pagan than it was in other times. Industry has changed in a generation, and the change has not been due entirely to the growth of democracy or the power of labor organizations; it has been due to the preaching of 'the social gospel' by fearless churchmen. The change of mind as to corruption in politics is very marked, despite recent scandals. We are no longer 'corrupt and contented.' There is indifference, of course, because the country is prosperous, and prosperity causes 'fatty degeneration of the moral nature'; but conditions are nothing compared with earlier days, and churchmen have not been without influence in pointing to the perils of an easy-going democracy. War has lost its romance. Why? Hundreds of pacifists who blame the Church for not stopping the World War forget that churchmen are responsible for clear thinking about the subject now, and that their moral influence, more than the hysteria of pacifist agitation, is responsible for the movement for peace.

"One of the most frequent complaints against the Church refers to the unhappy divisions of Christendom; but to what do we owe the movement for unity but to the Church itself? Division came because the Church had become secularized and corrupted and had to be reformed. In the effort to establish truth, men became enamored of meticulous doctrinal expositions of the faith, and the process of fission went madly on. But it is the Church, not its critics, which is leading the return to unity and fellowship, and leading it with right motive, not as an economic consolidation, but as a unity of evangelical purpose. Nothing in our present age is so indicative of the recuperative power of the Church as the strength of this movement toward reunion."

Personal problems are still settled by words Christ uttered centuries ago, asserts the Bishop. "There is scarcely a social movement which does not seek, in some degree, to utilize His principles. Economists and statesmen are beginning to talk in strange ways of taking His spirit into national and international relations. Speaking more personally, Bishop Fiske concludes:

"I entered the ministry because I saw—far back in those days—what faith in Christ meant. I came to that faith, as did Romanes, after passing through doubts such as he had as he wrote: 'When I think, as at times I must, of the appalling contrast between the hallowed glory of that creed which once was mine, and the lonely mystery of existence as now I find it—at such times I shall ever feel it impossible to avoid the sharpest pang of which my nature is susceptible.' I came to faith through the shadow of a sorrow shared with the closest friend I then had, whose suffering I tried to lighten. I reached my faith through study of the person of Christ, finding that He exercised over me the same fascination the four Gospels show Him as exercising over those who felt that their eyes had gazed upon the very Word of Life.

"Then I looked at the Church, and I saw all its weaknesses. I watched its members and knew them for the poor things they were. I went into the ministry to make them more worthy of their calling. And ever since I have been trying to make myself more worthy of my own! I doubt if any one would be won to the Church if he knew me as I know myself, and yet I think he might be won if he could guess what I should have been, and might still be, without the Church and its worship."

A CHURCH FROM A SINGLE TREE—When they decide to build a new church out in Santa Rosa, California, members of the congregation select a likely young redwood tree and cut it up for lumber, says *Modern Mechanics* (Minneapolis). We read:

"If the church is of average size, like the one in the picture, the chances are that enough lumber will be left over from the single redwood to start a parsonage for the pastor. Only two-thirds of a redwood tree was used in constructing this California church, and when the roof was finished it was found that 60,000 shingles were left over. The building is 60 feet wide, 100 feet long, and the spire rises 100 feet in the air. In addition to the main auditorium, seating 400 people, the building contains a large study for the minister, a vestibule, and a parlor with a seating capacity of 100. Families planning to cut down the cost of building by planting redwood trees in their back yards are warned that it takes several thousand years for these giants of the forest to mature."

for Economical Transportation

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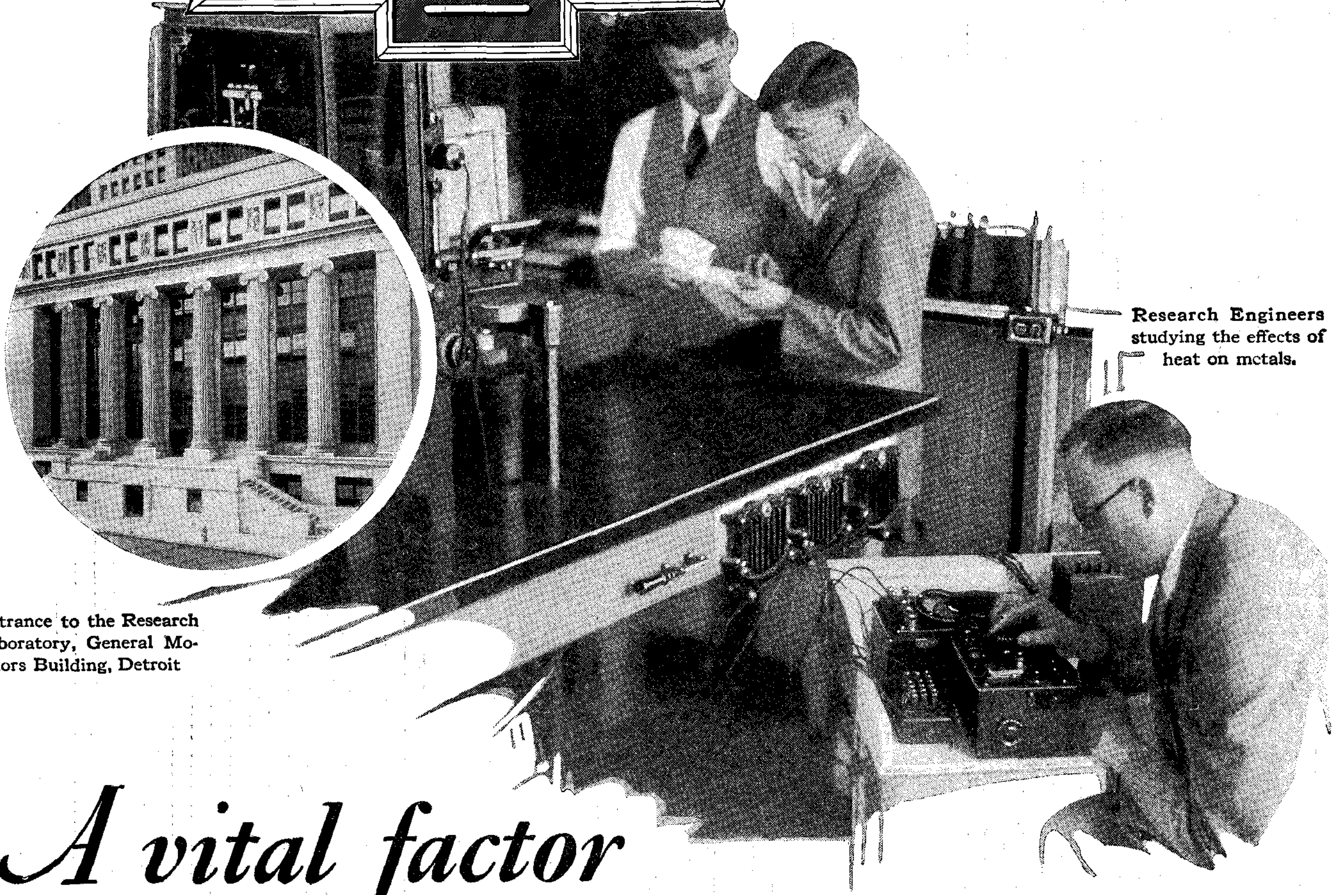

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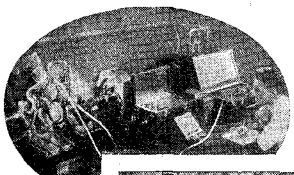

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QUALITY AT LOW COST

CURRENT ▾ POETRY

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THE sea suggests innumerable similes, but never had we seen it as workable stone. The case seems to be established in the New York *Herald Tribune:*

SEA

By Don Gordon

Sea is wild marble waiting the stonecutter's hand,
Splendid with power but formless and lost,
Hungry for patterns, for lined and recurrent shapes;
Chaos crying for symmetry, envious of mountains and birds
Whose heights and migrations follow laws, return precisely on wings.

Ships etch wild marble, hard prows cutting clear,
Sea-veins open, patterns form and set;
Sea-loveliness seems measured and forever made,
Then blue obliteration . . . salt curves coil again.

All other tracings pass, all faint designs depart. . .
Wind-edge, sun-golf, moon fingers on the tide;
Life crude and averse to slow shadows, soft sea-veins etched,
Primal fluid sagging with beauty embryonic, unborn,
Sea is the last void, chaos breathless and moving and mad.

The following is not unusual as the plaint of an alien in the States, but Canada, it seems, inspires also these nostalgic cries. From *The London Mercury:*

RETURN FROM CANADA

By Ethel Street

Oh, English poets, call me back again;
Tell me the English woods smell sweeter far
Than these of straggling birches and wild plum.
Tell me the green of beech trees glows more rich
In that deep ancient softness than the weave
Of the sap-brilliant spruce and delicate birch
Against the blackness of Cape Trinity
And blacker waters of the Saguenay.
Tell me the folk who long have learnt to live
Are gentler, surer than these kindly friends,
That gracious habits shine more steadily
Than freedom's intermittent riding-light.
"Life was lived nobly here," I'd have you cry,
And sing the land of "men with splendid hearts."
Yet if you call and I am glad to come,
This hurt remains no welcoming can heal,
The hurt of Time who cuts from out my heart
A living cell of thought and joy and pain.

Since clothes are so scanty to-day, should poets complain when one more garment is wanted? Opulent poets are rare anyway. This plaint is in the New York *Herald Tribune:*

THE INSATIABLE SEX

By Wilfred J. Funk

If I scaled the heights of Venus
And ransacked ten million stars
Of their fineries—Orsinus,
Mercury, Arcturus, Mars,

Plucked the Pleiades and hung them
Flaming on your ivory breast,
With the shining moon among them
As a diadem and crest,

Seized the Milky Way and tore it
From the skies to make a gown
For you, dearest, and you wore it
With Orion as a crown—

Would it help you? Would you try a
Little thrift then? No! My guess is
You would merely go and buy a
Dozen other hats and dresses!

An editor of *The World* once read Mr. George Jean Nathan a lecture for saying he was not interested in politics. He now has a culprit in his own fold, but F. P. A. may find sympathizers outside:

CAMPAIGN THOUGHTS

By F. P. A.

(Rekalsomined from the campaign of 1912)

This is a Presidential year.
(An unassailable reflection.)
"Things will be better," so we hear,
"After election."

Comes now the questing of the Vote,
The Call to Arms, the Appeal to Reason,
The Stirring Speech, the Clarion Note—
This is the season

When everywhere and roundabout,
From coast to coast, and vicy-versy,
The candidates will speak and spout,
Sans fear or mercy;

When from the Rockbound Coast of Maine
To California's Sandy Beaches,
All are enthralled by the campaign,
And many speeches.

I might as well admit "enthralled,"
(Cf. line 3, above tetrastich),
As Mr. Ward might once have drawled,
Was wrote sarcastick.

And therefore I demand a word,
A message to this Glorious Nation;
I crave the right of being heard
On Conservation.

On Conservation: Not of trees,
Or water power, or fish, or horses—
Of something greater far than these:
Human Resources.

Resources wasted in campaigns,
In oratory dry and juiceless;
The waste of energy and brains
Strikes me as useless.

For him I'd vote who said "Enough!
I scorn the terrible traditions
Of the Campaign. I leave that stuff
To politicians."

That's all. I might do five or six
More stanzas, but I find it dreary.
Do *you* care much for politics?
They make *me* weary.

The modern magazine or weekly may need some reminder of the hazards of concentration and not interrupt a thrilling tale with too many material distractions. The New York *Times* sponsors the jibe:

PYRAMUS AND THISBE

By Ella A. Fanning

(As the date of any modern magazine.)

Mr. Ovidius Naso tells a tale
Of real heart-interest and with many a thrill.
Young Pyramus Jones, who lived in Intervale,
Loved his fair neighbor, blue-eyed Thisbe Dill.
(*Turn to Page 64, advertisements of soup, linoleum, woolens for sports wear, yeast.*)

Alack! her parents had ambitious plans,
The Village Magnate on the maid had smiled.
(*Turn to Page 72, not overlooking the merits of paper cups, baking powder, aluminum ware, pie-crust oil, washing solution, French perfumes.*)

But Pyramus, love-taught, removed a brick
From the dividing wall, and would commune
With Thisbe. "Where the mulberry leaves are thick
Come out, sweet; let's improve the silvery moon!"

Thisbe was punctual, reached the tree the first.
(*Turn to Page 94, colored plates of vanishing cream, oil-heaters, dentifrices, desiccated cocoanut, chewing-gum.*)
Lo, as she waited, there stalked from the wood
A lion which for gore had been athirst;
So when he met a deer, lunched as he should.

Thisbe in terror to the thicket fled,
Dropping her veil which that foiled beast soon mauled.
When Pyramus appeared, "My love is dead!"
He wept. The gore-stained veil his soul appalled.

He waited for no alibi, brash youth,
But drew his dagger, fell upon its point,
(*Turn to Page 110, noting holeless hose, furniture cream, Akers's cocoa, after-dinner mints.*)
"Since she is gone, this earth is dark, in truth!"
His heart's blood soon the greensward doth anoint.

Pale Thisbe, stealing back, her lover spies,
Dead by her veil, and guesses his mistake.
(*Turn to Page 126, sidelights on fireless cookers, necklaces, ginger ale, tire chains.*)
Seizes his dagger—tears stream from her eyes.
Pierces her heart; then sleeps, no more to wake!

Mr. Hall is called "the greatest poet of South Africa," and he makes "probably my final bow" in "Poems of a South African" (Longmans, London). He writes that "in a vast country where there is so much to be done, and so few to do it; where the white population is under two millions, and most of these not using English as their mother tongue; poets may seem to be superfluous":

AT THE VICTORIA FALLS

By A. Vine Hall

"Where goes the river?" Livingstone enquired.
Then did a dusky Solomon declare,
With naked dignity and learned air:
"White Chief, the knowledge many have desired
We give to you. It is a lion tired
By a great leap, who seeks afar his lair,
Sleeps, and by sand is covered; none know where."
Thus the witch-doctor, confident, inspired.

Th' intrepid Traveler thought otherwise.
Ever he journeyed on undauntedly.
Not years of loneliness; nor nightly cries—
Perils of man and beast; not agony
Of burning days of fever and of flies
Deterring; till, at last,—"The sea, the sea!"

Carl Sandburg's "Notebook" in the Chicago *Daily News* furnishes a sonnet and an appraisal, beginning: "Not more than once a year do we come across a sonnet worth keeping to read twice. We find such a sonnet, however, by Ruth Messenger, one of the corn-huskers who write for *The Husk*, published by the English Club of Cornell College, Mount Vernon, Iowa. Here it is":

A FEAR

By Ruth Messenger

It is not death I fear, nor that the gold
And pearl of early evening will outlast
This transient clay, and cooling shadows cast
Their quivering lengths into the self-same mold
And I not here; but that when I am old
And calm with the quiescence of desires
Long stilled, and stealthy quenching of youth's fires,
Evenings will come like this and leave me cold.

When cherry bloom shall only mean to me
Another canning season, and the deep
Untrodden snow a sidewalk to be swept;
Then will I face the darkness willingly,
And rather choose to sleep a dreamless sleep
Than cross, on bridges, streams that I have leapt.

DE SOTO SIX

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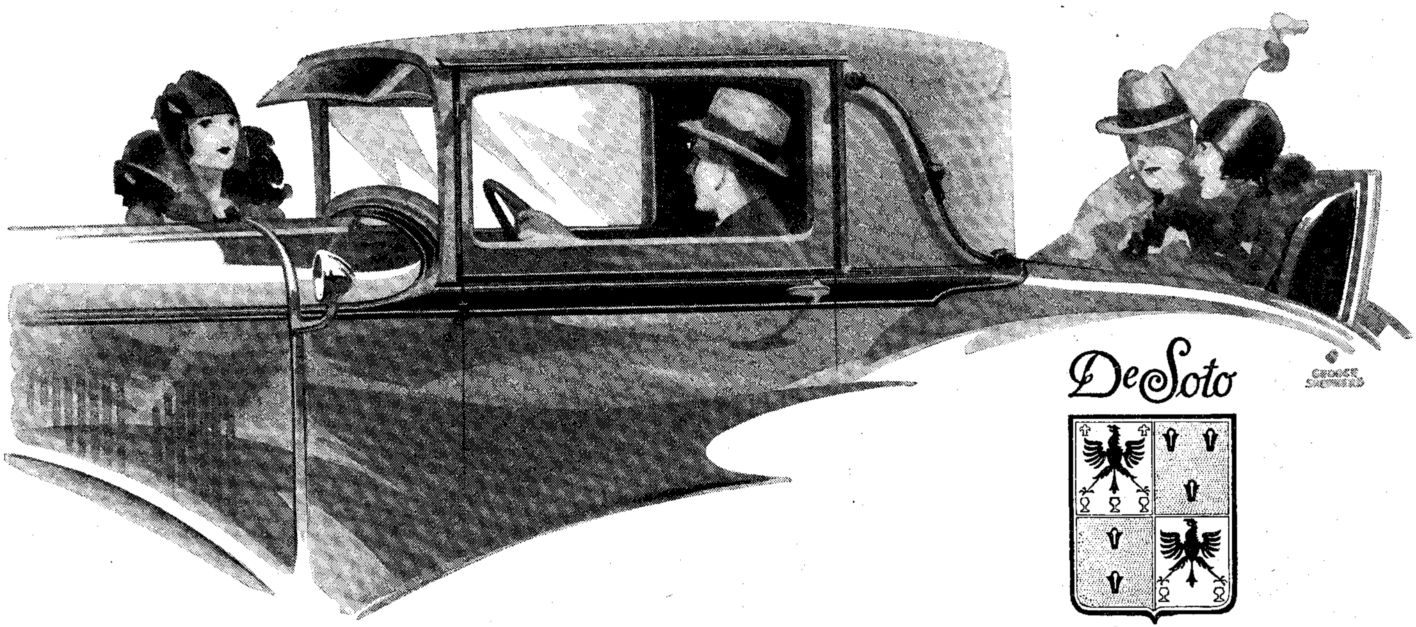


De Soto

Multum pro parvo

SUCH VALUE COULD COME *from* NO OTHER SOURCE

De Soto Six—product of Chrysler engineering and manufacturing genius—gives so much more beauty, quality and performance ability for so little cost—that its greater value in the field of low priced sixes has been instantly recognized and generously rewarded.

DE SOTO MOTOR CORPORATION (*Division of Chrysler Corporation*), *Detroit, Michigan.*

PERSONAL ▾ GLIMPSES

COCONUT PIES FOR BOY SCOUT LION HUNTERS

Illustrations from "Three Boy Scouts in Africa," published by G. P. Putnam's Sons

BIGGER AND BETTER "ROVER BOYS"

From left to right, Dick Douglas, Doug Oliver, and Dave Martin, who left their peaceful games to stalk lions, giraffes, and goodness knows what not on the African veldt!

FRESH-BAKED COCONUT PIE, devoured with gusto by three hungry boys, was a fitting climax and reward for a hard, exciting, successful day's work. First there had been an argument about the kind of pie. "Coconut," said Doug. "Blueberry," said Mr. Johnson. But it was Doug who had shot the lion, so his choice ruled. For this pie was not baked in a placid American kitchen, but in a camp oven in British East Africa; and it was prepared for three American Boy Scouts by hands no less accomplished than those of Mrs. Martin Johnson, who with her husband is famous as a photographer of big game. The nimrod in whose particular honor the pie was baked was Douglas L. Oliver, one of the three Scouts who went on safari with the Johnsons during the past summer. The other two were Robert Dick Douglas, Jr., and David R. Martin, Jr. The lads have recorded their adventures in "Three Boy Scouts in Africa" (Putnam). The boys went as the guests of George Palmer Putnam, the explorer and publisher, David Binney Putnam, the boy traveler and author, his son, and David T. Layman, Jr. The trio, it is explained, were chosen from the entire American Boy Scout membership. The Scouts, it would seem, are extending their activities over a large part of the globe. Our readers will recall an account in THE DIGEST for September 15 of Paul A. Siple, who is on his way to the South Pole with Commander Byrd. The boys who went to Africa describe their experiences in a lively manner. Dave and Dick bagged lions, too, and were rewarded with pies, but Doug was the first to do so, and it was on the first actual day of safari, July 14. It was a busy day, we read, which began with making photographs of representatives of the King of Beasts. And on top of this introduction to the wild life of the Dark Continent came the first sight of the lion which was to provide the most of the excitement. But let Dave, Dick, and Doug take up the tale:

He was truly a "King of Beasts," a magnificent fellow with massive shoulders and long mane. Two lionesses followed him over the veldt into a donga [gully]. We hurried after to get a better sight of them. The big fellow was in a bad humor, that we could plainly see. But his curiosity proved stronger than his prudence. When he stopt for a look at us, the two females ran away. As our chief business was with the old male, we gingerly approached the clump of grass in which he was hiding.

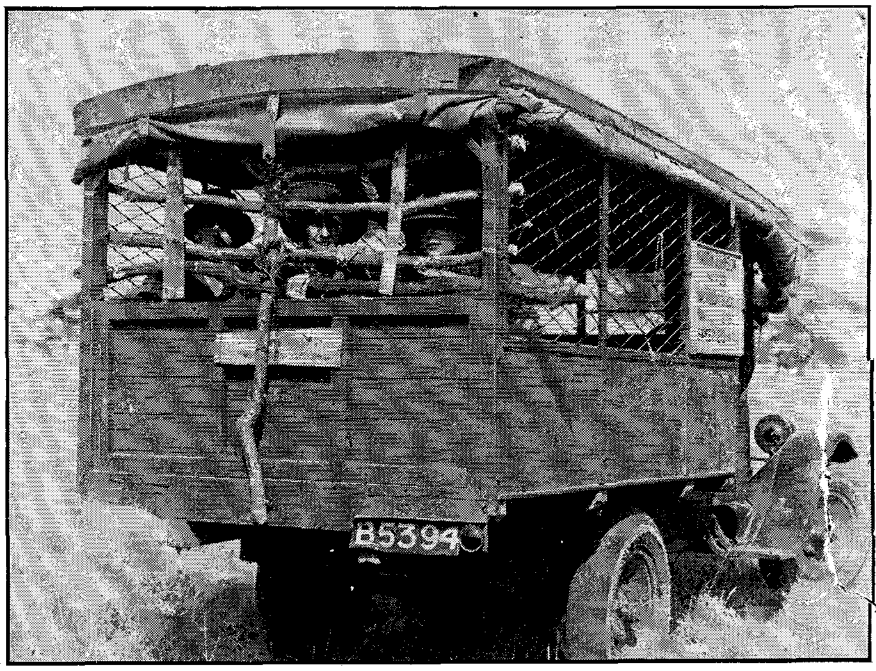
Mr. Johnson quickly set up his cameras to film the lion the minute he stuck his head out of the grass. He stuck his head out of the grass all right, but it was evident that he didn't want to be photographed.

Pretty soon he ran on to another clump of grass, then another. We chased him until his big body was tired out and his temper completely gone.

At last he was ready to charge. For a mark to shoot at, there was his head. It was a shot pretty hard to miss. Yet Doug was so excited he missed his first shot, the bullet going high.

In the second, the time spent in reloading, Doug must have felt as if the weight of the whole world was on his back. He aimed again for the angry lion's head, and shot. This time the old fellow disappeared into the grass. Dick said that he had crawled through the donga. It was a scary moment.

Five minutes passed, and we saw nothing of the lion. What we three thought during those five minutes would have kept us writing forever. Yet the lion might have still been living for all we knew, and charged us any second. Gosh, it was ticklish. As



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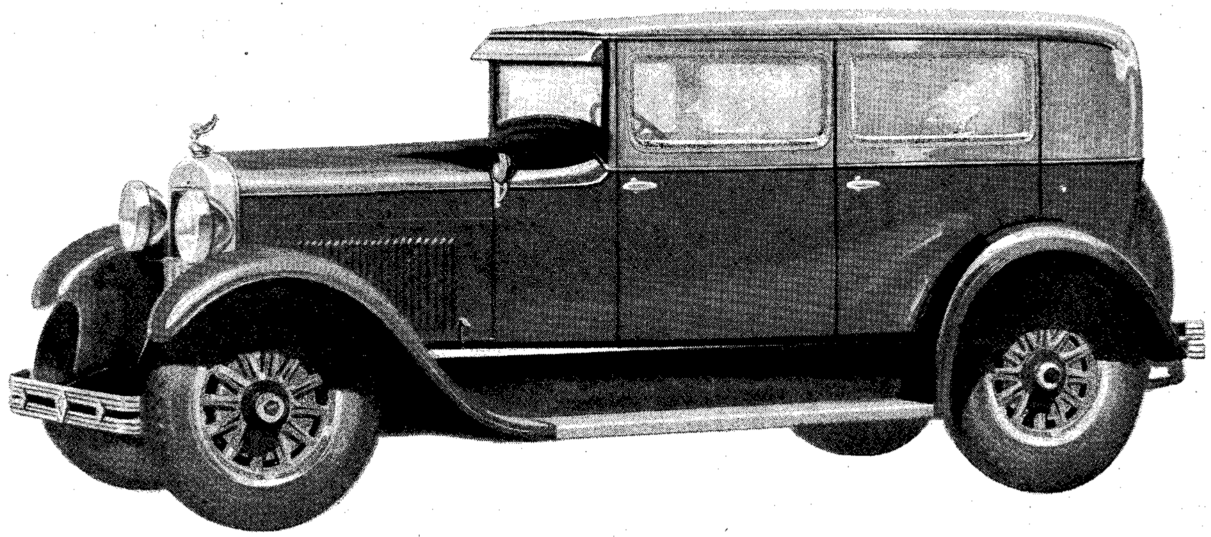
PLEASANT DREAMS—IF ANY

In this barricaded truck Dave, Dick, and Doug spent a night, taking flash-light pictures of the hungry lions that surrounded them. They even slept, some.

Essex 5-pass. Sedan, $795
f. o. b. Detroit



$200 to $300 More in Visible Value

The only Essex point in common with cars in its price field—is price. If you drove a $3000 car you would find the same vital elements of quality as you find in Essex.

Essex quality, fine appearance, and high manufacturing practice rightly classify it with those costly cars which use only the best known fine car methods.

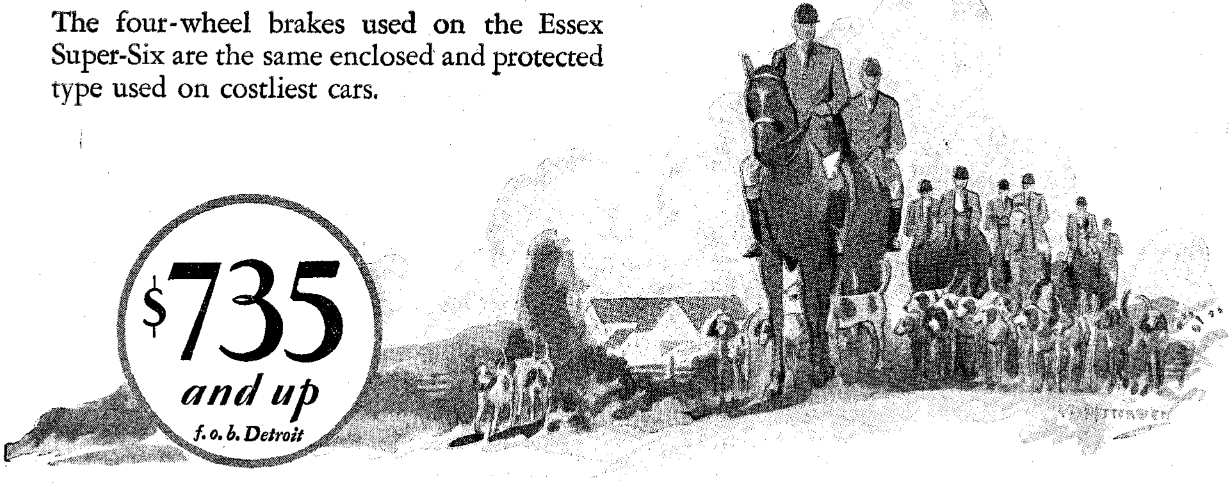
For every important item in Essex construction you must go to those costly cars to find comparison. Like the $3000 cars Essex uses roller tappet bearings. It uses Timken tapered wheel bearings. It uses worm-and-gear type steering.

Like the $3000 cars Essex uses five frame cross members for rigidity. Like them it fully balances all running parts for smooth, long-lasting operation.

The four-wheel brakes used on the Essex Super-Six are the same enclosed and protected type used on costliest cars.

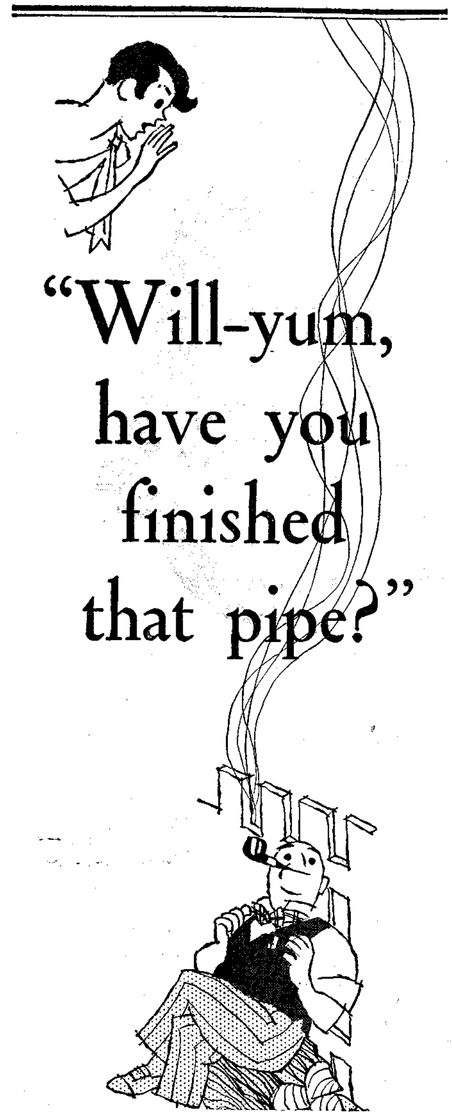
The Essex Super-Six high-compression motor is patented and exclusive and to our knowledge the most powerful and efficient motor of its size in the world.

Please compare with any car the advantages we have itemized here, because they speak for the complete quality way in which the new Essex Super-Six is built—things seen or unseen.



$735
and up
f. o. b. Detroit

ESSEX SUPER SIX



"Will-yum, have you finished that pipe?"

YOU don't have to take the old briar outdoors if you fill it with Sir Walter Raleigh's tobacco. Wives like the fragrance of Sir Walter—husbands say it's the *mildest*, mellowest smoke that ever came out of the South. And the gold foil wrapping inside the tin keeps it fresh to the very last pipeful. Sir Walter can bring your pipe out of the woodshed into the parlor.

LIMITED OFFER
(for the United States only)
If your favorite tobacconist does not carry Sir Walter Raleigh, send us his name and address. In return for this courtesy, we'll be delighted to send *you* without charge a full-size tin of this *milder* pipe mixture.
Dept. D, Brown & Williamson Tobacco Corp.
Winston-Salem, N. C.

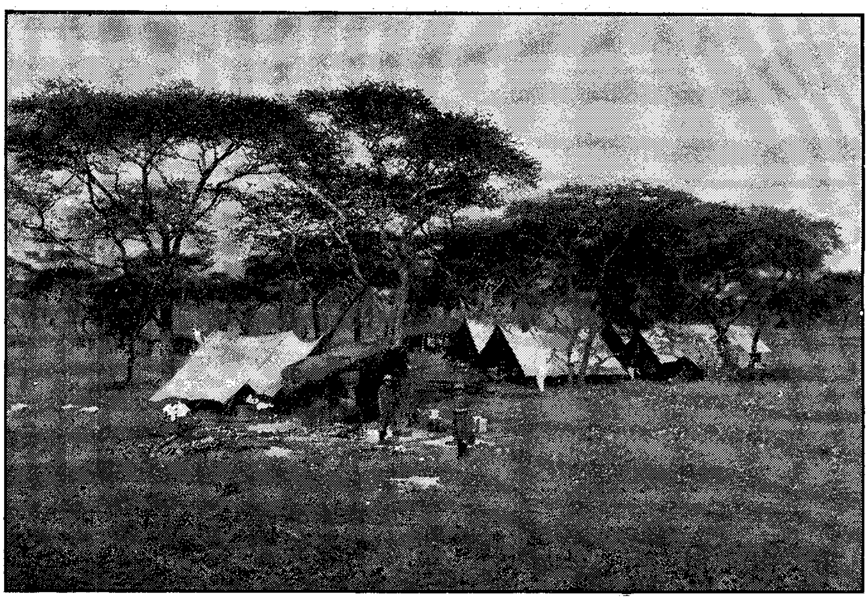
B&W PRODUCT

SIR WALTER RALEIGH

Who discovered how good a pipe can be

It's milder

PERSONAL GLIMPSES
Continued



Copyright by Martin Johnson

COCONUT PIE CASTLE

The main camp at Tanganyika where Mrs. Martin Johnson baked a pie for the boys whenever one of them was lucky enough to bag a lion.

Mr. Johnson could not make out the complete form of the lion he went a little closer, much to our anxiety.

Just then Dave piped up with, "Think of poor Daniel."

We were in no mood for jokes, but we couldn't help laughing at that.

We waited about five minutes, then started slowly forward a few feet. We could see the lion on its side but could not tell if he were still alive. It was too dangerous to go into the donga to see. A wounded animal is very much more dangerous than one not wounded, for he will charge at any person coming near him.

Mr. Johnson asked for something to throw. Dick told Dave to take off his shoe. He hesitated at first, afraid that the lion would chew it to pieces. Then he took it off, and Mr. Johnson threw it at the lion. It hit with a thud and the lion did not move. At this, Mr. Johnson formally pronounced the big fellow dead. He measured about nine feet long from the head to the tip of the tail.

When the boys at camp saw Simba [lion] they all had a war-dance. Ponda-ponda, Mr. Johnson's skinner, picked Doug up on his back and carried him all around camp. Mohammed, a porter, gave a war-whoop and danced around while the Waccoma all joined in. Then the skinner got busy. After the skinner had finished, he cut out the two lucky bones from the lion's shoulders.

How the three boys were picked to go with the Johnson expedition is told in the preface to the Scouts' book by James E. West, Chief Scout Executive, who says:

> The three boys chosen for this expedition represented the entire membership of over 600,000 boys. Every Local Council was invited to make recommendations on the basis of outdoor experience, good Scouting, and ability to write. Over 200 councils submitted candidates specially qualified and representing their choice within their membership. A very careful preliminary elimination was made by a committee of four members and checked by another four. The seventeen candidates standing at the head of the list were submitted to another committee and seven of their number were chosen to appear personally before a committee consisting of Col. Theodore Roosevelt, Mr. Putnam, and myself. From this number, David Martin, Douglas Oliver and Dick Douglas were chosen. Three independent groups rated them first, the boys chosen being the preference of the seven final candidates themselves.
>
> I can not resist expressing my satisfaction here with the outcome of the entire expedition. From beginning to end it has moved without the slightest hitch. The boys have not known a day's illness. Of even greater satisfaction is the manner in which these boys have played their part. On two matters we knew that the expedition would be a test of the value of Scout training. What effect would the nation-wide publicity have on these boys? was one of the questions we asked ourselves. I am happy to say that they came back from Africa just as clean and wholesome and unspoiled as they were when they first came into my office to present themselves for personal examination before the committee that chose them from the seven final candidates.
>
> The Sixth Scout Law declares that a Scout is a friend of animals, that he will not hurt or kill any living creature needlessly, that he will strive to save and protect all harmless life. It was inevitable that there would be some shooting on the safari. Fifty to a hundred native boys had to be fed. I refrained purposely from giving them any specific advice in this matter, and I find a great deal of satisfaction in the manner in which they worked out their own attitude and responsibility.

But to get back to the lions. On the first day of safari, the Scouts, the Johnsons, and their native attendants were going through a *donga*, always on the lookout for the King of Beasts, when, suddenly, we read:

NO SERVICE STATIONS in mid-Pacific! Goebel and Davis, winners of the Dole flight to Hawaii, relied on Mobiloil to keep down gasoline consumption.

Wide World Photo

NO PISTON-DRAG to waste gasoline for the U. S. Army fliers. They circled the globe with Mobiloil.

COL. LINDBERGH flew the "Spirit of St. Louis" 42,000 Mobiloil-lubricated miles and always arrived with gasoline to spare.

Photo by Underwood & Underwood

How to cut gasoline consumption - perhaps 16%

Do you waste 16% of your gasoline through incorrect lubrication? You may if your oil is too heavy for the design of your particular engine. Only a slight excess heaviness in body will produce a measurable resistance to the free movement of your pistons.

Such resistance (oil-drag) consumes power. Engineers report that at 20 miles an hour a too-heavy oil may force your engine to develop 16% more power than would be required if the correct oil were used. Thus wrong oil may easily waste 16% of your gasoline.

And when you use too-light an oil the results are equally costly. Too-light an oil may work too freely past the pistons and quickly burn away.

How, then, can you make sure of getting oil of *correct* body for your car?

Make the Gargoyle Mobiloil Chart your lubricating guide. It is prepared by expert lubricating engineers who study carefully the lubricating needs of the new car models. From first hand study of *your* car they tell you—in the Chart—the grade of Mobiloil which will give you low gasoline consumption, low oil consumption, low repair bills, and full power.

And Mobiloil is made by the world's largest specialists in lubrication. You are always sure with

Make this chart your guide

It shows the correct grade of Gargoyle Mobiloil for certain prominent cars. If your car is not listed below, see complete Mobiloil Chart at your Mobiloil dealer's.

Follow winter recommendations when temperatures from 32° F. (freezing) to 0° F. (zero) prevail. Below zero use Gargoyle Mobiloil Arctic (except Ford Cars, Model T, use Gargoyle Mobiloil "E").

NAMES OF PASSENGER CARS	1928		1927		1926		1925	
	Engine		Engine		Engine		Engine	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Auburn, 6-66	. . .	. . .	. . .	. . .	A	A	A	A
" 8-cyl.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" *other models*	A	Arc.	A	Arc.	A	A	Arc.	Arc.
Buick	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Cadillac	BB	Arc.	BB	Arc.	BB	Arc.	A	Arc.
Chandler Special Six	A	Arc.	A	A	. . . .	. . .	. . . .	. . . .
" *other models*	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Chevrolet	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Chrysler, 4-cyl.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" Imperial 80	BB	Arc.	A	A	A	A	. . . .	. . .
" *other models*	A	Arc.	A	A	A	A	A	A
Dodge Brothers	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Durant	A	Arc.	. . . .	. . .	A	Arc.	A	Arc.
Essex	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Flint	. . .	. . .	A	Arc.	A	Arc.	Arc.	Arc.
Ford, Model A	A	Arc.	. . .	. . .	. . . .	. . . .	. . . .	. . . .
" Model T	. . . .	. . . .	E	E	E	E	E	E
Franklin	BB	Arc.	BB	BB	BB	BB	BB	BB
Gardner, 8-cyl.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" *other models*	. . . .	. . .	. . . .	. . .	A	A	A	A
Hudson	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Hupmobile	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Lincoln	BB	Arc.	A	A	A	A	A	A
Marmon, 8-cyl.	A	Arc.	A	Arc.	. . . .	. . . .	. . . .	. . . .
" *other models*	BB	A	A	A	A	A	A	A
Moon	A	Arc.	A	Arc.	A	Arc.	Arc.	Arc.
Nash	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Oakland	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Oldsmobile	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Overland *all models*	. . .	. . . .	A	Arc.	A	Arc.	A	Arc.
Packard	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Paige *all models*	. . . .	. . .	A	Arc.	A	Arc.	Arc.	Arc.
Peerless 90, 70, 72	BB	A	A	A	A	A	A	A
" *other models*	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Pontiac	A	Arc.	A	Arc.	A	Arc.	. . . .	. . . .
Reo *all models*	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Star	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Studebaker	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Velie	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Willys-Knight 4-cyl.	. . .	. . . .	. . . .	. . .	B	Arc.	B	Arc.
" " 6-cyl.	BB	Arc.	BB	Arc.	BB	Arc.	BB	Arc.

The World's Quality Oil

Mobiloil

VACUUM OIL COMPANY

Fair retail price—
30¢ a quart

from bulk, except "B" and "BB" which are 35¢ a quart. (Prices higher in Rocky Mountain and Pacific Coast States.)

GARGOYLE

Mobiloil

Look for the red
Gargoyle trade-mark
on the Mobiloil container

Mrs. Johnson exclaimed, "Simba!"

"Ndio," replied Bucari, the Nubian headman of the Johnsons. Ndio was Swahili for yes.

We immediately stopt and began to look up and down the donga for lions. For a while we saw nothing. Then we got the thrill of our lives. Down in the tall grass were four big lions, the first wild lions we had ever seen. Three were females and the other was a young male.

Copyright by Martin Johnson

A FRIENDLY TIP

Out on the veldt of British East Africa the lords of the soil give a nature-study course to their young visitors from over the sea.

We started up closer in hope of getting some pictures. But the beasts lay down in the grass and we couldn't get them.

We were not excited. Oh, no! What did four lions mean to us, particularly when they were only a few yards away? Of course we expected a charge. No doubt our hearts were beating a mile a minute.

But nothing happened. For a few minutes the lions simply watched us with a bored air. After a while they all rose slowly and walked away, each giving us a look as if to say, "Gosh, what silly animals! I can't figure them out."

As we were about to leave, Mrs. Johnson pointed out three more lions over a hill across the donga. They were beautiful creatures, slender and graceful as they lay in the shade of a tree. They really seemed much more like big tame cats than like wild African lions.

As we watched them a giraffe wandered down toward the donga. As soon as the lions saw him, they flattened down in the grass. When the unsuspecting animal approached the lions, we were sure that any minute he would be killed. But just before he reached the enemy the latter jumped up and ran away over the hill! We never knew whether we scared them or they just left, but we were glad the giraffe wasn't killed.

We came in a few minutes to a large stretch of veldt on which were grazing thousands of wildebeest, zebra, kongoni, tommy, and a few topi and Grant's gazelle. The sight was a wonderful one. Originally, our conception of Africa was thick jungles, full of snakes and monkeys, or fever-ridden swamps. Here we were in a beautiful valley surrounded by miles of rolling plains, one of the healthiest spots on earth.

We were suddenly aware of a commotion among the game. At once Mrs. Johnson pointed out two lionesses stampeding some zebra. When we went for them, they saw us and ran into a donga. We didn't pursue them, because it is very dangerous to follow game into high grass. There is no telling what may spring out at the hunter.

In the afternoon, they started out toward Lion Valley, which got its name thus:

Very few of the places around camp had names on the map, so Mr. and Mrs. Johnson gave each some name. The first time they were down in Tanganyika they discovered that this valley was almost always full of lions; hence the name.

When we first entered the valley we noticed the abundance of game. Zebra and wildebeest, the lion's chief food, were there in great numbers. The grass had been burnt off and recent rains had brought up the tender shoots of new grass, all of which brought the game. Following the game came the lions.

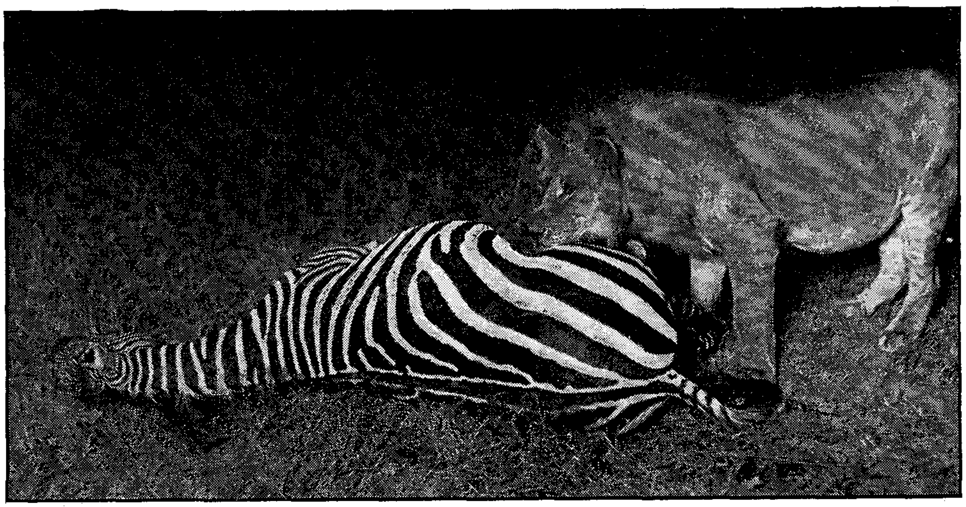
After going down the valley for a way we came to a water-hole. Here Mr. Johnson said he had almost always found lions. Scarcely were the words out of his mouth than we saw an old lioness down at the edge of a near-by donga. As we started toward her, we saw four more on an ant-hill; then four more on another. Before we got close, the first four started away. Then we went up toward those on the other hill, and got up within thirty or forty feet of them.

We had never seen a more beautiful sight in our lives. Lions have been pictured as terrible and aggressive; but they are like all other creatures when left alone. As long as we were not bothering, they paid no more attention to us than to the birds in the trees overhead. They gave us a few dirty looks and let it go at that. After all of us had made some wonderful pictures, Mrs. Johnson made a roaring sound. To our surprize, instead of charging, the lions walked off to find a more peaceful resting-place.

They walked around us and then up to the hill where the other four lions had been. They were not afraid of us, tho this time they were just a bit cautious of the strange animals that they saw before them. They lay down on the ant-heap and watched us. Presently one of them rolled over on his side like a big cat and, after pawing at the air, went to sleep! We came over until we were only ten yards away, and resumed our photographing. Surely it was one of the most beautiful sights we had ever seen—four big lions sprawled out on the hill watching us through half-closed eyes.

None of them had large manes. Very few of the wild lions do. Some of the biggest lions of Africa do not compare with circus lions in quality of mane. The lions living in the open get their manes full of burrs and thorns. Then they comb them out with

(Continued on page 45)



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DINNER UNDER DIFFICULTIES

The lion was heartily enjoying his meal of zebra when the flashlight interrupted him with its flare. The picture, taken from a motor truck, was the result.

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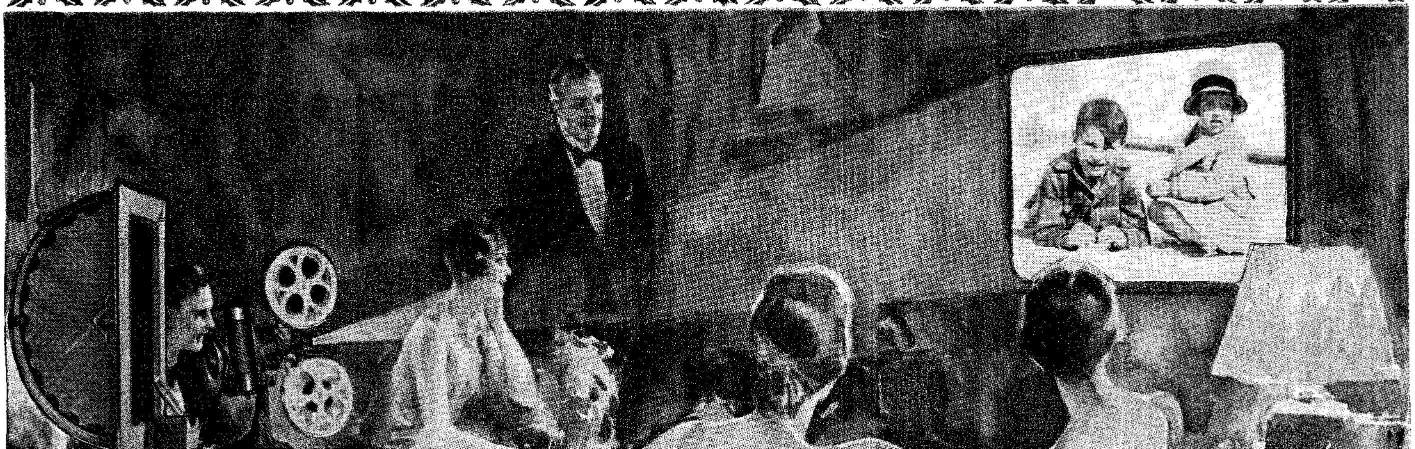

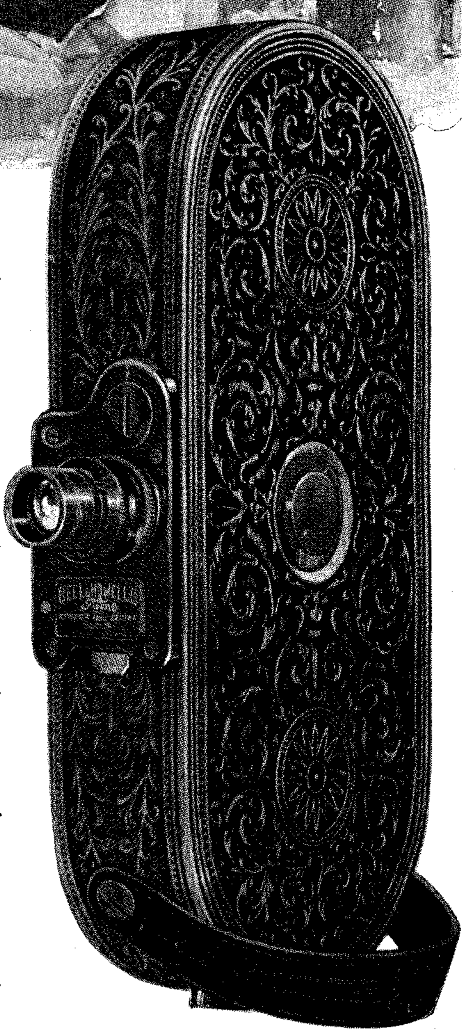

Filmo . . . A Gift
that turns back the pages of Happiness

Filmo Home Movie Camera and Projector
Made by Bell & Howell specialists

For the individual . . . for the entire family, especially the family blessed with children . . . no gift can afford more pleasure and pride than a Filmo Movie Camera and Projector. They record permanently and in action those scenes everyone loves to remember.

Most of the movies featured in the finest theatres during the past twenty-one years have been made with Bell & Howell professional cameras costing up to $5000 each.

Filmo *personal* movie cameras, made by the same Bell & Howell specialists, bring you many of the features and *all* of the precision characterizing these costly professional instruments. They are so simple a child can operate them, yet they are so overwhelmingly superior in design and construction that they stand alone in results.

There are two styles of Filmo Camera for amateur movie use.

One is the well known Filmo 70 which for five years has been standard among amateurs all over the world. The other is the new pocket-size Filmo 75 which costs one-third less and is ideal for field, travel and sports use. Both have the valuable interchangeable lens feature and 100 foot film capacity. Both are entirely automatic. Simply look through the spy-glass view-finder and press the button. *What you see, you get* . . . in movies of theatre depth and beauty.

Both Filmo 70 and 75 use Eastman Safety Film (16 mm.) in the yellow box, obtainable at practically all stores handling cameras and supplies. First cost covers developing and return postage. Then the film is ready for showing in the compact, precise Filmo Projector.

Filmo Projector, shown above, has no equal in the brilliance and clearness of pictures projected. It, too, operates with greatest ease. Attaches to any electric light socket.

Filmo *Libraries* contain thousands of carefully selected films which are available at a low rental or purchase price to supplement personal movies made with the Filmo Camera.

Plan now to make somebody happy with this splendid gift. See your Filmo dealer. Send coupon now for our new book "What You See, You Get." It explains all.

Filmo Accessories include many devices to aid in gaining professional effects in home movies. Each is a fine gift in itself. Write for Filmo Accessory Catalog, a wealth of gift ideas.

:: :: ::

Kodacolor, the natural color process for the amateur, is also available to owners of Filmo equipment under a license from the Eastman Kodak Co.

Filmo 75

Ideal for field, travel, vacation and sports use. Available in three rich colors, Walnut Brown, Ebony Black and Silver Birch. Price $120, including luxurious plush-lined carrying case of genuine Scotch grained embossed leather.

"What You See, You Get."

Filmo 70

The finest and most flexible movie camera ever built for amateur use. Especially designed to meet all conditions of light, speed and distance. Price $180. Other models for making s-l-o-w movies available at slight additional cost. Described in free booklet, "What You See, You Get." Send coupon for copy.

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Please send your descriptive Filmo booklet, "What You See, You Get."

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There is also EYEMO, *using standard 35 mm. film, for those desiring to commercialize their movies*

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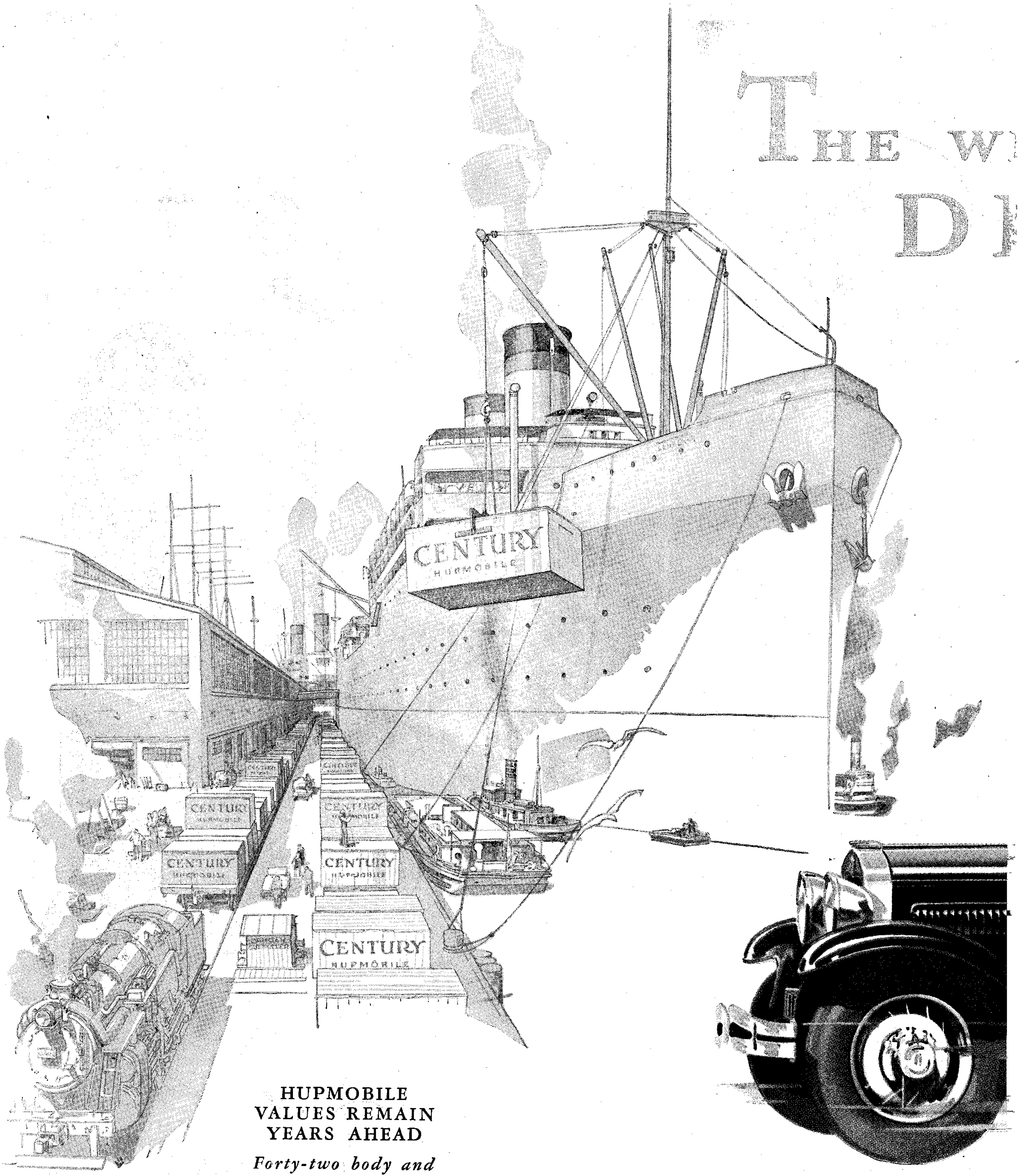
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VALUES REMAIN
YEARS AHEAD**

Forty-two body and equipment combinations, standard and custom, on each line. Six of the Century, $1345 to $1645. Century Eight, $1825 to $2125. All prices f. o. b. Detroit.

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LE WORLD
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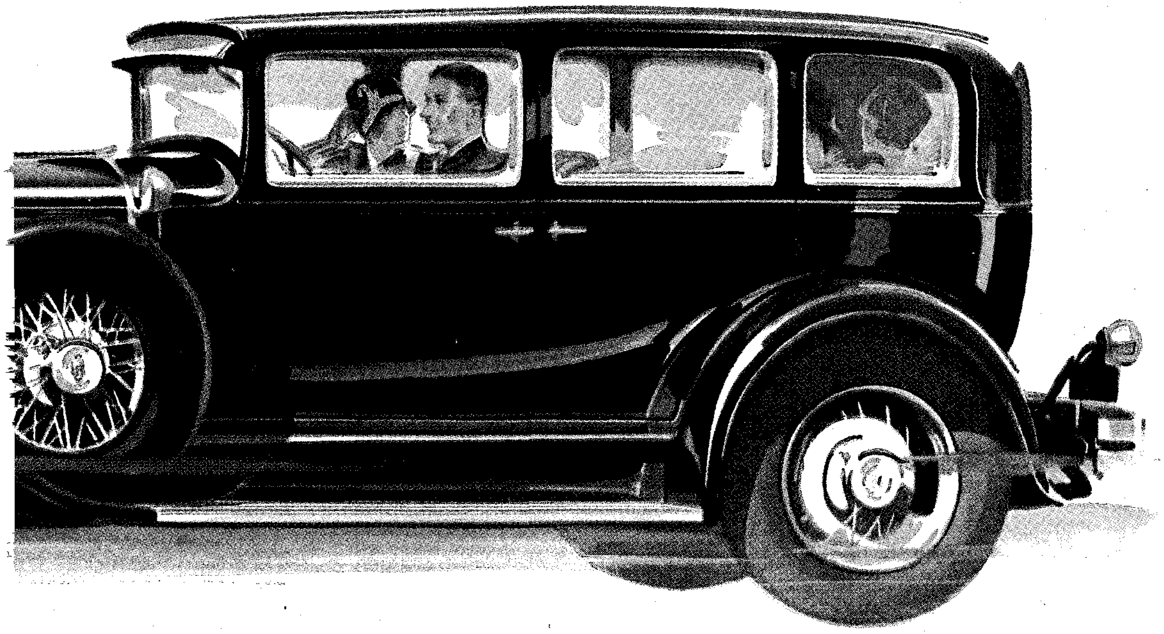
29 CENTURY MODELS

T the barriers of frontiers and tariff alls, train and ship loads of Century and Eights are drawn by a demand sistent as that of America itself . . e answer to Hupmobile supremacy is n for all to read. It is based on world-confidence in Hupmobile quality and nobile manufacturing—plus a new ppealing beauty and attractiveness achwork and design, that more than make these cars unrivaled for value. would seek comparison with the fine mechanical excellence of these new 1929 Century Hupmobiles, their completely "tailored-metal" finish or their strikingly individual beauty, go to cars of far higher price . . ¶ And even there, you will find no essential of fine car performance developed to a finer pitch than Hupmobile has engineered into its powerful straight-eight and capable six . . ¶ See and examine the new 1929 Century Hupmobiles to know why Hupmobile is today supreme in the world's most discriminating markets.



TURY
& EIGHT

You may admire their snow-white teeth *But . . .*

4 out of 5 are in peril of Pyorrhea

Forever lurking behind snow-white teeth is a dread foe of health. With sinister effect it attacks neglected gums. It takes as its victims 4 persons out of 5 after forty and thousands younger. It is the disease of neglect . . . called Pyorrhea.

These odds are unfair. For with a little care you can be reasonably safe from this foe that ravages beauty, youth and health and often leaves in its wake a host of serious ills.

Brush your teeth faithfully. And to safeguard health and preserve your teeth also do this:

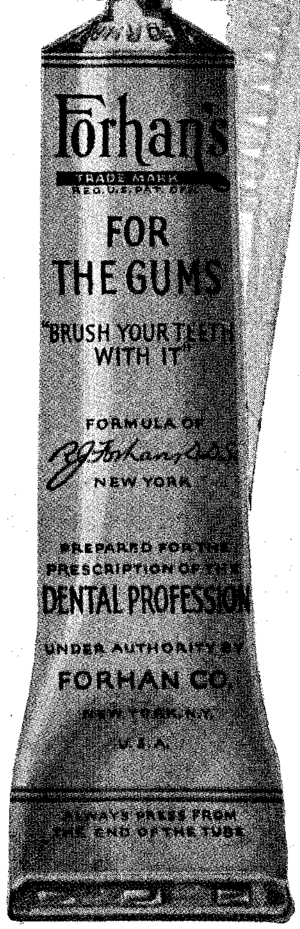
Morning and night, brush gums vigorously with Forhan's for the Gums. This dentifrice, the formula of R. J. Forhan, D. D. S., is compounded with Forhan's Pyorrhea Liquid used by dentists in treating the gums. It is designed to firm the gums and keep them sound. And as you know, Pyorrhea seldom attacks healthy gums.

When you have used Forhan's for a few days you will note a distinct improvement in the way your gums look and feel. Also you will be delighted with the way this dentifrice cleans teeth white and protects them from acids which cause decay.

In addition to this daily care have your dentist examine teeth and gums thoroughly at least once every six months.

If you regard health in the light of its true worth get into the good habit of using Forhan's for the Gums, morning and night. Teach your children this habit and in the years to come they will thank you.

Get a tube of Forhan's from your druggist—today. Two sizes, 35c and 60c. Forhan Company, New York.



This 10 Day Test Will Convince You

Lazy, lethargic gums invite disease. And the only way to keep them firm, sound and healthy is to massage them daily just as a woman massages her face to keep it glowing with youth and free from the signs of age. Forhan's for the Gums is designed for gum massaging. Make this 10 day test. Morning and night, before brushing your teeth with Forhan's, exercise your gums, closely following the directions in the booklet that comes with each tube . . . See how much better they look and feel!

It Works! . . . Every Time

The tremendous success of Forhan's Antiseptic Refreshant proves that more and more people are realizing the importance of the correct practice of oral hygiene. Every morning and every night they use this Antiseptic Refreshant as a mouthwash. It is powerful, refreshing and safe. It protects mouth, nose and throat from infection and keeps breath sweet. Try it. 35c and 60c in bottles.

Forhan's *for the gums*

YOUR TEETH ARE ONLY AS HEALTHY AS YOUR GUMS

(*Continued from page 40*)

their claws, often pulling out great bunches of hair. As the result of this the manes are usually short and not very thick.

We made pictures of them for about half an hour. They posed for us, standing, lying down, sitting on their haunches. As long as we remained there, they watched us. When we left we saw them, still on the hill, staring at us.

At that moment, foolish as it may sound, we all three hoped that the car would break down so that we would have to stay there all night. We could think of nothing more exciting than sleeping in trees with lions moving beneath us.

No sooner said than done: we had a puncture. There we were in the middle of the lion country with a punctured tire. However, by the time we changed tires we had thought better of the matter of camping there, and were glad to move on.

A little later Dave, Dick and Doug were permitted a sight of the great migration of game. A journey of some distance was necessary before they came upon the spectacle—"one of the most wonderful sights imaginable." Reading on:

We had just come out of the hills covered with thorn trees and were dropping down to the plains. Across the plains were more hills. But in front and behind us stretched the veldt as far as we could see. In front the plain was bare, but behind it was divided by a strange black line almost a mile wide and several miles long.

At first this line resembled a long black snake of mammoth proportions lying at full length across the land. Then as we studied it more closely, we could make out that it was entirely composed of animals! Hovering over the animals were scores of birds.

With the help of the glasses we could distinguish zebra among vast herds of wildebeeste that made up the biggest part of the line. And there were hundreds of Grant's gazelle, tommy, kongoni, and topi on the outskirts of the main body. All these, together with the lions and leopards that were sure to be hiding in the long grass watching for a kill, made up what is called the big migration.

"The sight of your lives!" exclaimed Mr. Johnson, as we stood silently and watched the extraordinary picture.

But what was probably the most exciting adventure through which our three Boy Scouts passed was a night picture-making expedition. On this occasion the youths had the somewhat hair-raising experience of spending a night in an automobile-truck surrounded by lions. The spot for the picture-taking had been selected in advance, and at sunset the party arrived where the kill, a zebra carcass used to lure the lions, had been placed. The cars were placed with their backs to the bait. From which point we proceed:

Mr. and Mrs. Johnson stayed at the edge of a donga with the plains behind them. We were between two dongas and within shouting distance of the Johnsons. The back of our truck faced the dead zebra, with the cameras in between.

The sides of our truck were of heavy wire. As it had a good top, only the front and back had to be closed. These were made secure by lashing poles across both openings. After we got into the body of the truck, the boys wired poles across the front. This partition shut off the front seat from the rest of the truck.

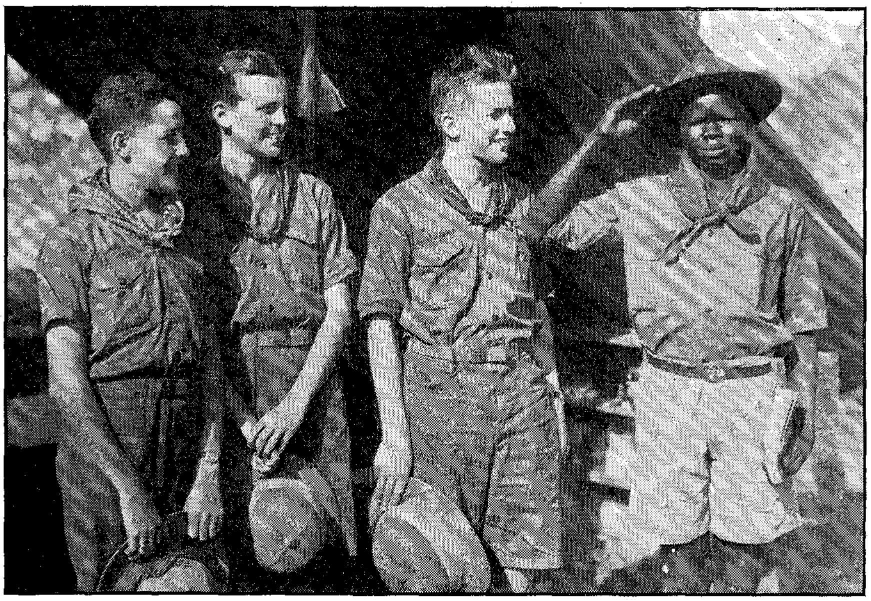
We knew that we were safe from lions; yet we all felt a little nervous when Mr. Johnson left us. We changed to our pajamas while it was still light and ate the lunch which Mrs. Johnson had prepared for us.

Just as we started to eat, Dave said something about this being our last meal on earth. We all laughed; but little remarks like that at such a time make one feel rather ill at ease. To be sure, we had arranged with Mr. Johnson to fire the rifle twice if we needed him, but what good would that do if he were a considerable distance away and the lions only a few feet?

After eating lunch in a silence broken only by a few strained whispers, we crawled under the blankets. We had been told that if the lions heard a human voice they would instantly run. It was likely, tho, that even if the animals were not afraid, we would have whispered, because we were all so excited. Doug said something about getting a lion into the truck and then jumping out. This started Dave laughing. He buried his head in the pillow and almost had hysterics. We finally thought he was crying, but he called out, "You fellows are going to kill me yet!" Then we all started laughing and trying not to make a sound at the same time.

We had been turned in about half an hour when we suddenly heard a bone crack. We slowly raised up and peeped out between the poles across the opening at the rear. Instead of the hyenas we had expected, we saw an old male lion. He had a short mane but he was a big fellow. When we saw him, we all started shaking. It was not so much the fright as it was seeing a big lion just a few feet away.

As we watched, he started eating away on the zebra. Now and then he snarled and growled deeply in his throat. We turned the flashlight on him; but instead of running away, he only crouched down behind the dead body. For several minutes we watched him. After a while he got over his fear of the light and began once more to eat. Mr. Johnson says that he thinks the lions believe the flash of a hand light or of a flare to be only lightning in the sky. Whatever this one thought, he showed no fear.



Copyright by Martin Johnson

AND THEN THERE WERE FOUR

At first there were three Scouts with the Johnsons, but before the American trio left they had made a convert of Mogo, one of the helpers.

Finally we started whistling to make him hold his head up. When we first whistled, he ran off a few feet, but soon returned. We whistled again, and he just looked up at us. Now Dick caught hold of the two wires which controlled the flares. To set them off the wires had to be touched together. The lion looked up just then but was not in the right position. Dick was going to whistle once more, but just as he drew in his breath, the flare went off with a loud report and a blinding flash. His hands had been shaking so that the wires had touched without his knowing it.

They teased Dick about that for the rest of the trip. But from the way the truck was shaking, the others admit, their hands and bodies were trembling as much as his. Quoting further:

At the flash the lion ran off, blundering through the bushes. He was blinded by the light for some time.

Then this conversation took place. Dick said: "I bet the lion wasn't even in the picture."

Doug answered: "I expect Mr. and Mrs. Johnson think we are crazy, taking a picture at this time of night."

Dave said: "Boy! That was certainly a relief to see that lion run."

In a few minutes we heard Mr. Johnson calling. Doug whispered: "I bet they are laughing at us. They're saying, 'Those boys probably photographed a hyena, mistaking it for a lion.'"

Mr. Johnson called: "What did you get?"

"Only a lion," we answered in a nonchalant way.

"Well, go to sleep," he yelled back. "We'll see in the morning."

We all crawled under our blankets, thinking it was all over for the night. This was about eight o'clock. We remained awake for half an hour, then dropt off to sleep.

Several hours later, we were awakened by a violent shake of

The makers of

STROWGER

P-A-X

TRADE MARK

PRIVATE AUTOMATIC EXCHANGE

pioneers in the field of automatic telephony, have now adapted the same time-proven switching mechanisms to a wide range of equipment that is proving indispensable to industry and commerce. Typical among such developments are those described below—all having as their background years of research and sound engineering practice.

CERTAINTY

THERE is no place for guesswork in modern business; only through constant definite knowledge can the production and operating economies necessitated by present day competition be maintained. The *absolute certainty* with which information is obtained, instructions transmitted, and general routine handled by P-A-X, the modern system of automatic interior telephony, is but one of the factors that have made it supreme in its field. In every line of industry, both great and small, it has become the world's standard of comparison.

And the same certainty of performance, regardless of conditions, applies equally to all other Strowger Automatic Communication and Signalling Equipment—for the same essential switching mechanisms are used in the systems here described, and in many others covering a wide range of industrial and commercial needs:

The Strowger Fire Alarm System—A System so sturdy and so simple that it is being adopted by industries throughout the country. The fire boxes have no moving mechanisms. The system cannot be put out of service by "grounds", "shorts" or broken connections; it gives both visual and audible signals; its functioning is entirely automatic. Bulletin 1016, which gives full details, will gladly be sent on request.

The Strowger Tele-Chec System—Primarily developed as a signal system for theaters to regulate the flow of patron traffic to various parts of the house, the Strowger Tele-Chec System is indispensable wherever there is necessity for the rapid and accurate transmission of numbers or codes by means of visual signals. Its applications are unlimited and many of them are described in Bulletin 1019 sent on request.

Strowger Railway Communication Equipment Includes push-key senders for dispatchers' lines, trainmen's telephones and pole jacks, linemen's test sets, repeating coils, relays and allied equipment. Descriptive literature on application.

STROWGER AUTOMATIC

Communication, Control and Signalling Systems

Strowger Automatic Equipment includes Public Automatic Telephone Systems P-A-X (Private Automatic Exchange) Watchman Supervisory Systems Tele-Chec Systems (for Theaters) Industrial Fire Alarm Systems Supervisory Control Equipment for Industrial and Commercial Devices, and Railway Signalling and Communication Systems.

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PERSONAL GLIMPSES
Continued

the truck. We heard growling outside. After some minutes of lying in bed, shivering with both fright and excitement, we got up enough courage to shine our lights out the back. Just under us was an old lioness calmly chewing on a tire! Twenty-five feet away on the kill, we saw four other lions. And as we watched two more joined in. Then the old lioness went back to the group. There were three big males with manes, three females, and one toto, or young one.

Surely we believe it was the most exciting moment of our lives, and also one of the most interesting.

In spite of their fierce looks, the lions were exactly like a bunch of cats, quarreling over a meal. They lay there, one at the head of the zebra, two at the back, two at the side, and one on the haunches. The toto stood off a few feet, watching his chance to slip into the feast. Our light seemed not to bother them, for they just looked up now and then and blinked. However, one of the males, the one whom we had made the picture of before, seemed a bit suspicious. When we moved the light, he would crouch down behind the carcass. Perhaps he had been frightened by the flash of the camera flares. But he soon got over his fright, and took his place among the others.

We watched them for about an hour before we lay down again. But just as we decided to go to sleep, we heard a slight noise up in the front of the truck. Dick grabbed his flashlight and crawled up to the bars that separated the front seat from the body. Shining his light out through the bars we saw the head of a lioness not three feet away! She had one foot on the fender and one on the floor board; and she had stuck her head up on the seat. When she saw the light, she only blinked her eyes and crawled back down.

We said not a word. It was the first time we had ever seen a lion try to drive a truck, and the sight gave us quite a shock. We came back to our blankets and waited several minutes before we felt like turning in again. We all lay perfectly still for a while, and at last dropt off to sleep.

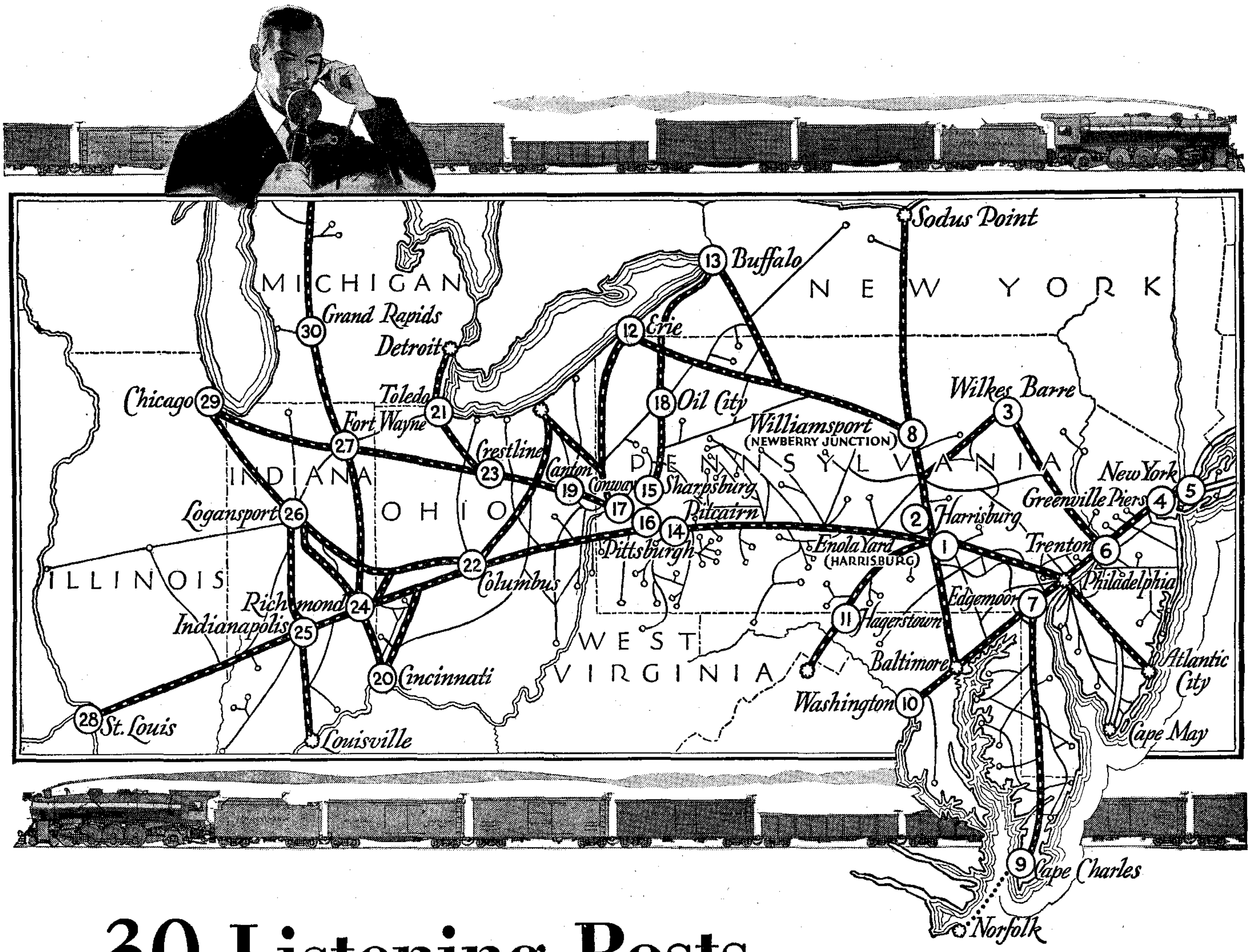
In the morning Mr. Johnson came over to the truck and woke them, and they told him about the night. As for the aftermath, we read:

When we returned to camp, we were all very sleepy. So after breakfast we lay down for a while. But we were soon up again.

Bucari was very glad to see us safe. He had feared that the lions might have broken into the truck.

Mrs. Johnson, active and energetic as usual, spent the morning out hunting for lions with Bucari. She was not going to shoot, but just find them for picture-making. In the meantime, Mr. Johnson developed the picture made the night before.

About the middle of the morning he called us over to where he was developing. He let out a whoop and we came running. We found that there was nothing the matter; he just wanted us to see the negative of the picture we had made. We had been afraid that the lion was not in the right position. But when we saw the negative we were satisfied. We had caught the lion broadside, standing over the kill, a good likeness of the King himself.


MICHIGAN
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22 Columbus
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Pitcairn
WEST VIRGINIA
13 Buffalo
12 Erie
18 Oil City
Williamsport (NEWBERRY JUNCTION) 8
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1
Enola Yard (HARRISBURG)
11 Hagerstown
Baltimore
Washington 10
Edgemoor 7
New York
Greenville Piers 4 5
Trenton 6
Philadelphia
Atlantic City
Cape May
9 Cape Charles
Norfolk

30 Listening Posts . .

on the battle front of American Business

AS WE stepped into the room we heard the familiar sound of a ticker pegging away its cryptic signs and figures on the curling tape.

At first it seemed a disturbing factor in this busy office of the Pennsylvania Trace Bureau at Pittsburgh. Yet that ticker—adapted to its new work—was the symbol of a revolution both in railroading and in business.

The numbers on its ribbon told during the day of the movements of each of the hundreds of cars that had clicked into or out of the neighboring freight yards.

Here it was only three o'clock in the afternoon of a not unusual day, yet, on the basis of the record of that ticker, seventeen reports had been made to one of the largest automobile factories in Detroit and twenty-two reports to its leading competitor.

The day has come when Industrial Traffic Managers must know at approximately what hour their incoming freight will arrive so that production schedules can be set accordingly. This affects millions of dollars of capital and the work of thousands of men in factories throughout the country.

Likewise builders, contractors, merchants in centers everywhere may wait to schedule the important work immediately ahead on the information received in these reports.

. . .

REPORTS ON THE PASSINGS of freight cars are made at thirty of the principal freight yards on the Pennsylvania Railroad. "Listening Posts" they may well be called, for each of the 30 stations listens to the click of each car of freight that passes by and records and reports its passing.

It is estimated that these 30 "Listening Posts," operating through the Main Bureaus at New York, Philadelphia, Pittsburgh, Chicago, and St. Louis and through the freight traffic representatives of the entire Pennsylvania Railroad, furnish to business 20,000 reports a day.

That information, speeded over the largest privately owned telegraph and telephone system in the world, or by special mail, aids American Business in its two biggest fights today—the fight to keep down inventories so that a maximum yield may be obtained from a minimum of capital, and the companion fight to keep labor constantly and profitably employed.

PENNSYLVANIA RAILROAD

Carries more passengers, hauls more freight than any other railroad in America

P. & A. photograph

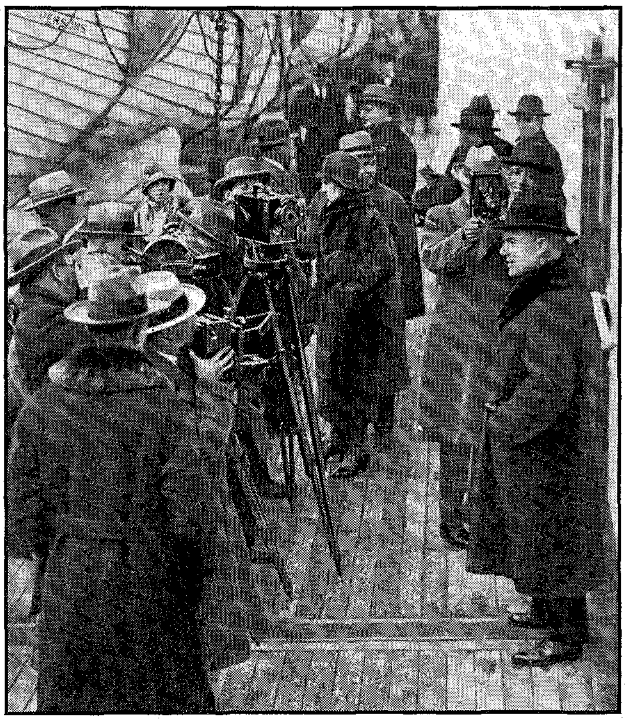
COLLECTING THE PRICE OF FAME

A battery of camera men, like this, faces both the great man and the celebrity of the moment almost every time either of them steps out-of-doors.

"LOOK PLEASANT"—AN ORDER EVEN KINGS OBEY

A DUSTY OLD COW-SHED with a straw-littered floor was prest into service as a studio. For that reason the news photographer who had respectfully asked the distinguished pair to pose for him was apologetic. But the Queen was graciousness itself, in addition to being a rather expert amateur photographer on her own account. "If the light is good there," she said, "nothing else matters." So they waded ankle deep through the dust and straw. King Albert of Belgium seated himself and his Queen straightened his hair and put his trench helmet at just the proper angle, we learn from Carl Helm, who writes under the title, "The Camera Reveals Surprizing Facts About Great Men," in *Popular Science Monthly*. And that picture of King Albert, which the photographer had asked to make against a war-torn background during a trip of the King and Queen to the trenches during the World War, was an excellent one. King Albert is the easiest photographed of royalty, says Mr. Helm in an account of the before-the-camera habits of celebrities, continuing,

> He sits for his picture as if he were enjoying himself. The credit goes to his gracious Queen Elizabeth, herself a camera enthusiast. She has coached him in the trick of being at his ease before the camera, and has put her preachings into practise by taking innumerable pictures of him with her own little kodak.



Wide World photograph

CORNERED!

John D. Rockefeller, Jr., just smiles as usual when the ship-news photographers ask him to "Hold it, please!"

Suppose, suggests the writer, that every time you set foot out-of-doors a horde of men were waiting to take your picture. Reading further:

> To the average man a visit to the photographer is as painful as a session with the dentist. You can imagine, then, the state of your nerves if you had to face a camera every day in the week.
>
> "Look this way, please!"
> "Take off your hat!"
> "Now, give us a smile!"
> "Hold it, please!"
>
> This is part of the price great men pay for being famous, and it is enough to shatter the disposition and poise even of men with iron nerve. Not long ago the head-lines reported of Colonel Lindbergh that he was "nervous and needed a rest." No little part of this "nervousness," his friends say, was caused by the camera. He hates to be photographed. He would rather fly through six snow-storms, they will tell you, than face a battery of photographers.
>
> The best photographs of "Lindy" were those snapt at the flying-field in Paris just after he landed in his epochal flight. They caught him unaware, smiling and unselfconscious. But when he got back to New York and photographers began hounding him, the smile left his face. It was only a natural embarrassment, but it changed him almost overnight from a carefree youth into a staid and formal celebrity. He began setting his face in sterner lines. Compare those first photos of the boyish Captain Lindbergh with those of the Colonel Lindbergh of to-day!

Now let us watch, with Mr. Helm, two men, whose pictures have been very much before us of late, as they face the clicking battery of camera men. We are told:

> Herbert Hoover is the despair of the Washington photographers. Tho noted for his versatility, he has just one pose for the camera—looking straight at it with an almost expressionless face. Hence his photographs are almost identical. He seldom displays more than the faintest suggestion of a smile when he poses for the cameraman. He dislikes to be photographed in full profile.
>
> In contrast, Alfred E. Smith is not in the least concerned about having his picture taken. He has been in the public eye too long to let the cameras disturb him. Coming up through the political ranks, Al Smith always had a wide smile, almost a grin, when photographers came. But when he began being talked of for President, the Governor became more sedate and serious. He is willing to be photographed in any position but the profile. His favorite pose is full face. He prefers to be "shot" while he is talking, to be shown "doing something besides having a picture taken."
>
> The most photographed man in the United States probably is Mayor James J. Walker, of New York. He enjoys being photographed—perhaps he is the only celebrity who does. His every movement, the photographers say, is an unstudied pose in itself. And he's always smiling. He has one little eccentricity—he doesn't like to be photographed bare-headed. His hair is sparse.

(*Continued on page 52*)

The jump that WINS!

PLANT running like clockwork. Salesmen geared up to the last notch. Advertising ringing the bell with every insertion . . . *And yet the profits sag!*

Are *you* the victim of rising costs in a congested factory district? Are your real competitors the neighboring plants that vie for your workers, your freight cars and terminals?

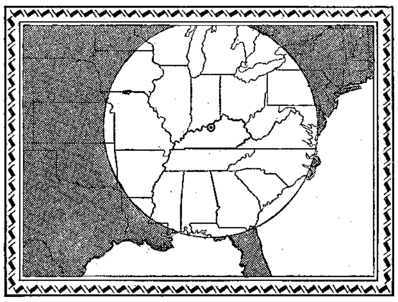
Study the increasing trend of manufacturers to Louisville, logical center of distribution to all markets east of the Rockies.

Know the *reasons* for Louisville's growing ascendency in the low-cost production area south of the Ohio . . . Know why, in six years, Louisville added more factory workers to its payrolls than any other city east of the Mississippi . . . Know why, in the same length of time, Louisville's manufactured output has doubled.

The question should not be, How long and by what devices can a manufacturer survive the rising flood of costs in a congested district? Rather—*What move can be made to at once eliminate abnormal costs in production and distribution and increase profits consistent with volume?*

Proven, Unembellished Facts of Real Value to Industry

A recently-published book, "LOUISVILLE, Center of American Markets," presents in simple, straightforward terms basic facts about Louisville as the ideal manufacturing center for distribution to all important markets.



Louisville—logical production center for distribution to all important markets east of the Rockies

Send for it. Louisville Industrial Foundation, 307 Columbia Building, Louisville, Kentucky.

* * *

Center of Markets—47% of the population east of the Rockies within a radius of 500 miles; 41.5% of its taxable incomes.

Low-Priced Power from the largest automatically-controlled hydro-electric plant in the world.

Contented Labor—97.3% native-born.

Fast Transportation over eight trunk-line railroads and river packets.

Raw Materials of a wide variety easily and economically available from outlying districts.

Acreage Plant Sites at low cost with city tax exemption for five years.

* * *

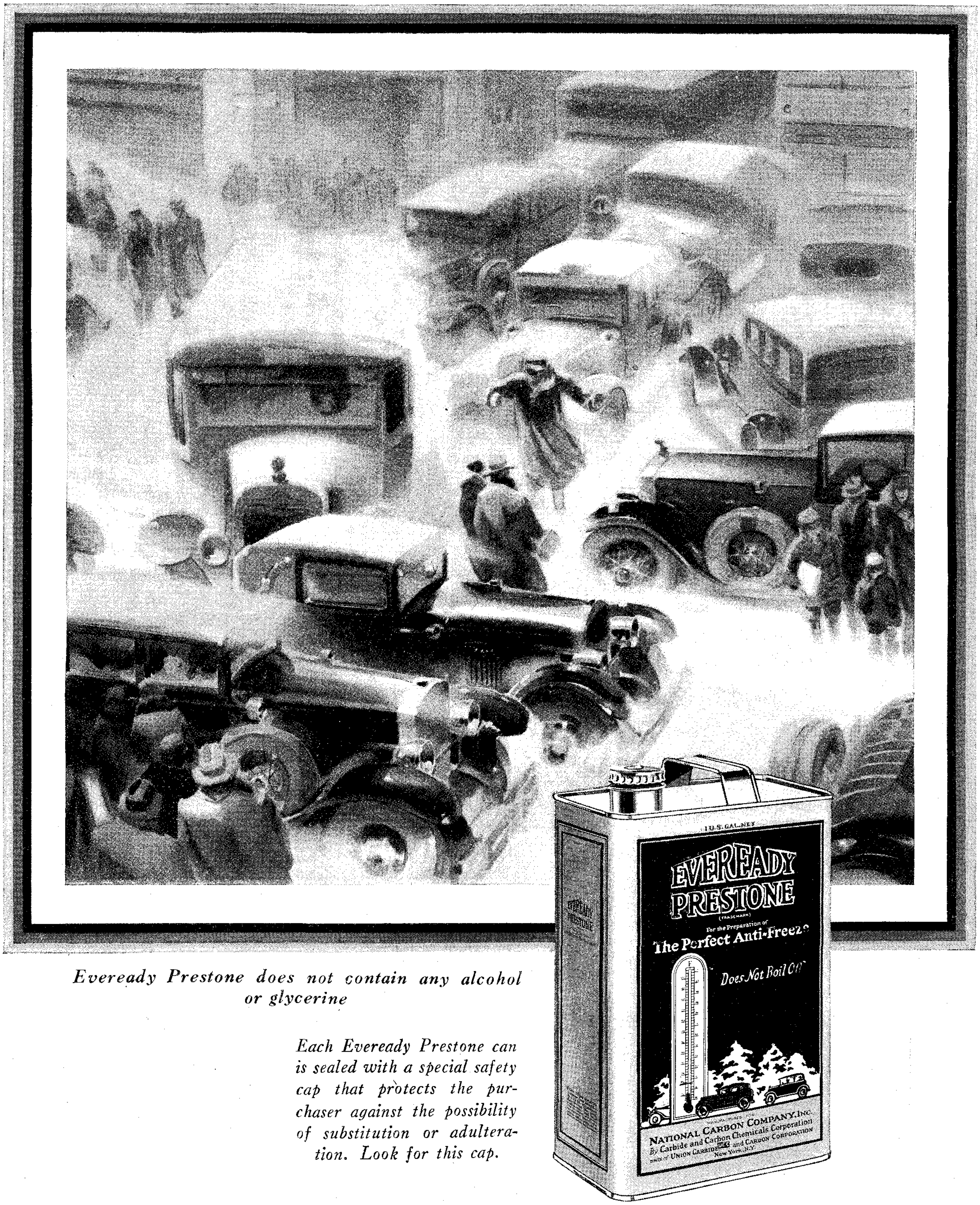
—*and a Wonderful Place to Live*

In business and play—in the office and on the links—Louisville's spirit of genial good-fellowship is unmistakably there . . . Incidentally plenty of golf courses . . . congenial clubs . . . river sports . . . excellent roads . . . inspiring scenery . . . a really progressive educational system and city government . . . And fifteen minutes, *in your own car,* from office to home!

LOUISVILLE

CENTER OF AMERICAN MARKETS

Make your car with one supply


1 U.S. GAL. NET
EVEREADY PRESTONE
(TRADEMARK)
For the Preparation of
The Perfect Anti-Freeze
F
Does Not Boil Off
MANUFACTURED BY
NATIONAL CARBON COMPANY, INC.
By Carbide and Carbon Chemicals Corporation
units of UNION CARBIDE and CARBON CORPORATION
New York, N.Y.
EVEREADY PRESTONE

Eveready Prestone does not contain any alcohol or glycerine

Each Eveready Prestone can is sealed with a special safety cap that protects the purchaser against the possibility of substitution or adulteration. Look for this cap.

winter-proof *now* of Eveready Prestone

U*nfailing protection without renewal . . . safe, harmless, never overheats*

YOU can drive all winter with perfect safety and freedom from worry if you protect your car now with one supply of Eveready Prestone, the perfect anti-freeze. You can use your car every day, all winter, through cold or warm weather without worry or concern about freezing or overheating. Eveready Prestone never deteriorates while in use and never causes a car to overheat.

Here at last is an anti-freeze without a fault — a product marketed and guaranteed by National Carbon Company, Inc., makers of Eveready Flashlights and Eveready Radio Batteries — an anti-freeze that has been developed by extensive scientific research to meet every specification of the U. S. Bureau of Standards for "an ideal anti-freeze."

Unfailing protection all winter

Eveready Prestone will not boil away, evaporate or deteriorate in any way while in service. It is odorless. It will not mar the paint or corrode the materials of the circulating system. It will not leave deposits. It is as free-flowing as water and will not become sluggish at low temperatures. Eveready Prestone is the *perfect* anti-freeze — welcomed by motorists everywhere as the most thoroughly satisfactory answer to the problem of winter protection.

points of superiority

1 **Gives complete protection**
2 **Does not boil away**
3 **Positively will not damage cooling system**
4 **Will not heat up a motor**
5 **Will not affect paint or varnish**
6 **Non-inflammable**
7 **Odorless**
8 **Does not become viscous at low temperatures; will not decompose at high temperatures**
9 **Never deteriorates — economical to use**

Eveready Prestone has the unqualified endorsement of leading motor-car manufacturers, motor fleet operators and thousands of individual users. They have found it to provide unfailing, trouble-free protection under every condition of winter driving.

Eveready Prestone is used to protect the huge, costly engines of dirigibles against freezing, a danger that necessitates the surest safeguard. You can protect your own car with the same assurance of permanent safety.

Most economical to use

Eveready Prestone is not an ordinary mixture or solution. It is an entirely new conception of an anti-freeze — *sold in pure, undiluted form.* Eveready Prestone is the most economical anti-freeze you can buy. It costs more initially, but less is required to give complete protection. It represents the best possible investment in protection because only one supply is needed to make your car safe as long as cold weather lasts. You buy Eveready Prestone only once and you are assured of permanent safety against freezing and freedom from any possibility of a corroded cooling system.

You can't afford to risk having to buy a new motor or even a new radiator when this perfect anti-freeze is available. Trust the safety of your car to the most thoroughly satisfactory anti-freeze ever discovered. Protect your car today with Eveready Prestone.

Manufactured for
NATIONAL CARBON CO., INC.
New York Chicago San Francisco
Atlanta Kansas City
By CARBIDE AND CARBON CHEMICALS CORPORATION
Units of Union Carbide and Carbon Corporation

EVEREADY PRESTONE
(TRADEMARK)
For the Preparation of
The Perfect Anti-Freeze

Shoe Smartness with Complete Shoe Comfort

IN the new Educator Shoe shown above, as in all of the other models representing this famous line, men and boys will find the perfect balance of shoe smartness and complete shoe comfort.

The realization of this happy combination has developed through more than 25 years of scientific shoe building.

It is expressed in the following five points of Educator superiority:

1—Foot conforming arch
2—Snug fitting heel
3—Tailored instep
4—Scientific modeling
5—Flexibility.

You will find these five characteristics in all Educators including the models for women and girls as well as those for men and boys.

Drop in on the authorized Educator dealer in your city and prove for yourself that here at last is a shoe that is both good looking and comfortable.

An expert unique in his knowledge of both shoe style and foot anatomy has written a book which explodes once for all the fallacy that "comfort" shoes cannot be good looking. If you have had trouble with your feet, if you have been sacrificing good style to comfort, send for the booklet, "Laying the Ghost." Address:

Educator Shoe Corp. of America
Dept. L. D. 11—225 W. 34th St., N. Y. C.

EDUCATOR SHOES

Are Good but Not Expensive

Women's	$8 to $10
Growing Girls'	$6 to $6.50
Children's (sizes 8½ to 2)	$4 to $5.50
Infants'	$3 to $3.50
Men's	$8.50 to $10
Boys'	$5 to $6.50
Small Boys'	$4 to $5.00

PERSONAL GLIMPSES

Continued

Edward, Prince of Wales, holds the doubtful honor of being the most photographed man in the world. He is the only member of royalty, too, who is consistently photographed while falling off a horse! He is self-conscious when he sits down to a posed, formal photograph. But, like Mayor Walker, he takes a lively interest in the proceedings when a crowd of American news photographers surround him, and is smilingly gay about it. On his last visit to the United States one photographer shouted, "Hey, Prince! Take off your cap!" The Prince complied, laughing. "I don't like that cap myself," he shouted back. "Go on and shoot!"

P. & A. photograph

MORAL SUPPORT

Edison and Ford "face the music" of the clicking shutters together. Ford objects to profiles, but this shot caught him when he wasn't looking.

The late J. Pierpont Morgan was a renowned enemy of all photographers. It was he who set the fashion of chasing them away with a club. He was sixty before he posed for a photograph. I discovered one reason why, the other day, in the private files of a New York photographer. It was an unretouched proof of a photograph of the great financier. It showed that Mr. Morgan had an unattractive bulbous nose, of which he was acutely conscious.

The present J. Pierpont Morgan inherits his father's hatred of the camera. He has, from time to time, employed husky detectives and guards to protect him from persistent photographers. This may be due to Mr. Morgan's known aversion to publicity, or to a fear of cranks, who might recognize him from published pictures.

John D. Rockefeller eluded the camera for years. On one of the first occasions when he consented to pose, a photographer asked him to remove his hat. He obliged—and the toupee he wore slipt down on one side of his head. The camera man saw it when he printed his plates, and knew it would make the oil king appear slightly ridiculous if it should be printed. He destroyed the plates! Nowadays John D. poses willingly enough, invariably wearing a cap or soft hat, but he wants to be shown "in action." When he is on the golf links he will hold a pose swinging a club or making a putt, but he rarely will stand still and face the lens.

John D. Rockefeller, Jr., likewise shows no embarrassment in front of the camera, and usually smiles when he is asked to "Hold it, please!" His wife, however, does not share his nonchalance. One Easter Sunday, Mr. Rockefeller, his wife, and little daughter were returning from church when photographers, seeking pictures of the socially elect on Easter parade, approached. Mrs. Rockefeller and her daughter posed. Some time later the multimillionaire oil man sought out the photographers and asked them, on behalf of his wife, not to print the photographs. She was afraid that kidnapers might memorize the child's face, and attempt to steal her!

Even tho they have been photographed countless times, some of our famous men will show the public only a favored angle of their faces, we learn. For example:

President Wilson seldom allowed himself to be photographed from the left profile. He had a rather large mole on his left forehead. On the other hand, the late Charles William Eliot, president of Harvard, would permit only his left profile to be shown. A birthmark covered a portion of the right side of his face.

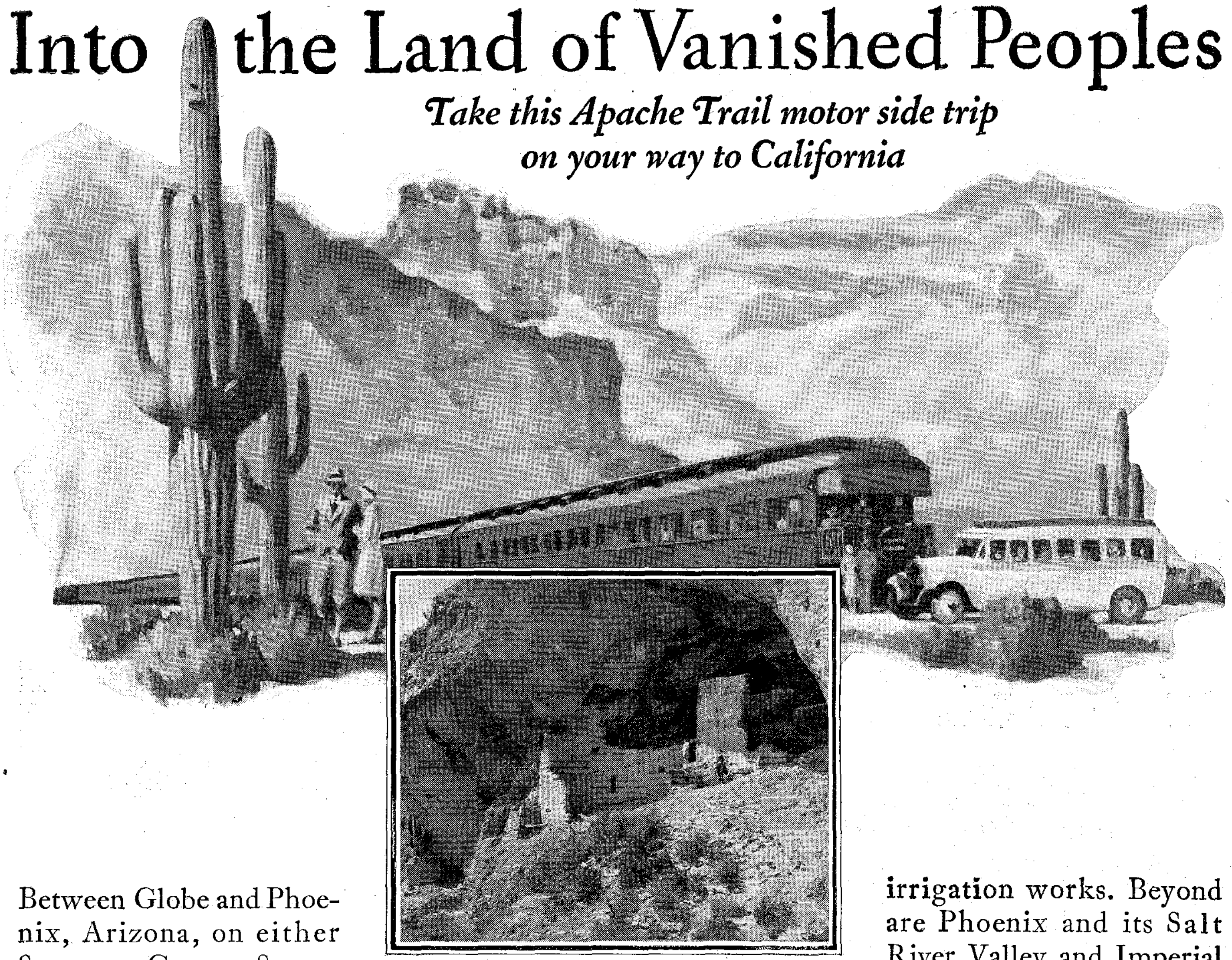
Henry Ford seldom sits for a photograph, and then it invariably shows his face full from the front. He objects to profiles, probably because his features are unusually sharp. When he and Mrs. Ford were crossing the Atlantic recently, a portrait-painter made a sketch of him. Mr. Ford paid for it, and then tore it up. Mrs. Ford explained that he "simply didn't like it."

There are many notable instances where photographs show a personality directly opposite to that of the subject.

General Pershing, in real life, is a pleasant-spoken and affable man. But he will

Into the Land of Vanished Peoples

Take this Apache Trail motor side trip on your way to California



A prehistoric race occupied Tonto Cliff Dwellings not less than 1000 years ago. The vanished peoples understood irrigation, spinning and weaving and used artificial lighting.

Between Globe and Phoenix, Arizona, on either SUNSET or GOLDEN STATE ROUTES of Southern Pacific, is a fascinating one-day motor side trip—The Apache Trail highway.

Cushion tires will bear you straight into the land of a people whose very existence, save for their crumbling relics, is legendary.

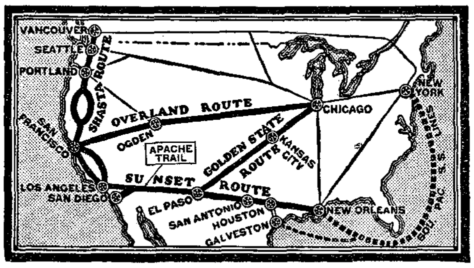
Yet those people have left cliff dwellings, adobe castles, and strange forts deep in the mysterious desert, in a setting of weird beauty. Their remarkable civilization flourished long before Columbus discovered America. It was already in ruins when Coronado's Spaniards of the sixteenth century rode by.

Along this Apache Trail, in a region where Nature has upset all her paint-pots, you will see Roosevelt Dam and other gigantic irrigation works. Beyond are Phoenix and its Salt River Valley and Imperial Valley of California.

Sunset Route— New York to California via New Orleans

SUNSET ROUTE begins at New York, where comfortable Southern Pacific steamships will take you to New Orleans — "100 golden hours at sea." Or you can journey there by rail. Thence across Louisiana, Texas and the Spanish-American Southwest. At El Paso, SUNSET ROUTE effects juncture with GOLDEN STATE ROUTE from Chicago. Juarez in Old Mexico, is only 5 minutes from El Paso by trolley.

For your return journey from California, Southern Pacific offers choice of four routes. Thus you can go one way, return another, and see the whole Pacific Coast at minimum outlay. Only Southern Pacific offers this choice.


VANCOUVER
SEATTLE
PORTLAND
SHASTA ROUTE
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OGDEN
OVERLAND ROUTE
CHICAGO
NEW YORK
APACHE TRAIL
GOLDEN STATE ROUTE
KANSAS CITY
SUNSET ROUTE
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EL PASO
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HOUSTON
GALVESTON
NEW ORLEANS
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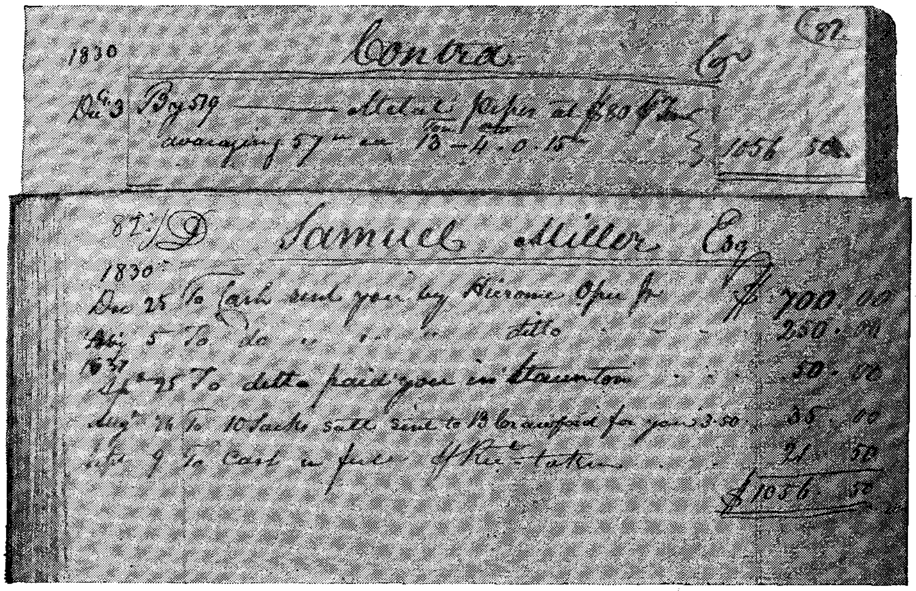
Southern Pacific

Four Great Routes

Send your name and address at once to E. W. Clapp, traffic manager, Dept. B-10, 310 S. Michigan Blvd., Chicago, for free booklets with animated maps in full colors, "*How Best to See the Pacific Coast*" and "*Apache Trail.*"

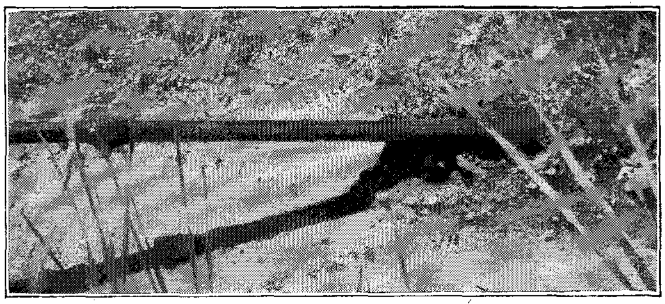
An 1830 Purchase



1830 Contra Cr (87)
Dec 3 By 579 —— Metal pipes at $80 ⅌ Ton averaging 57 " ea 13-4-0-15 } 1056 50

87 Dr Samuel Miller Esq
1830
Dec 25 To Cash send you by Hieronimo Opie for $700.00
Mar 5 To do .. .. .. ditto 250.00
1831 Aug 25 To ditto paid you in Staunton 50.00
Aug 26 To 10 Sacks salt sent to B Crawford for you 3.50 35.00
Sept 9 To Cash in full of [illegible] taken 21.50
$1056.50

of CAST IRON PIPE



that's still in use today!

A century. Or two centuries, or *more,* is nothing at all for cast iron pipe!

The pipe shown above was laid in Brookewood, Va., 98 years ago. It is as sound today as the day it was laid—good for at least another century. Further proof that, once in the ground, cast iron pipe can be forgotten. Its full life has never been measured.

For gas and water mains under busy streets, for road culverts and for hundreds of other uses, where permanent, uninterrupted service is vital, cast iron pipe is the undisputed choice of engineers.

There are many other facts about cast iron pipe that are important to every taxpayer, engineer and city official. Authoritative data on any subject pertaining to pipe use is available to any inquirer through The Cast Iron Pipe Research Association. Address: Thos. F. Wolfe, Engineer, 122 So. Michigan Ave., Chicago, Ill.

CAST IRON PIPE

not approve any photographic portrait that does not show him stiffly erect—"every inch a soldier." He simply won't break into a smile voluntarily. Otto H. Kahn, the financier and patron of the arts, is an essentially modest and retiring man, usually good-natured and smiling. Yet when he sits for his portrait, he becomes straight-backed and stern.

Paul Whiteman, the jazz orchestra leader, is a sober and thoughtful musician, with much serious work to his credit. But when he poses for his picture, he breaks into an expansive smile. A photographer may find him in the rehearsal hall where he is fuming at his musicians over the right shade of "blue" harmonies. But just before the shutter clicks he turns on the smile!

It is just the opposite with the jazz exponent, Vincent Lopez. He is an easy-going and smiling fellow in real life, but his photographs show him as grim as a mountain!

Prize-fighters are not averse to being photographed, with the notable exception of Gene Tunney. He will stand for just so many, and then he gets nervous and irritable. He hates to be told to "give us a little smile." Most ring celebrities want to be photographed in their "fighting faces." Not so with Tunney. From his photographs one would think him as gentle and harmless as a Professor of Comparative Literature.

Jack Dempsey will pose all day, doing anything that the photographers may suggest, and keep smiling through it all.

Ball players are as superstitious as Chinamen about having their pictures taken, declares Mr. Helm, proceeding to cases:

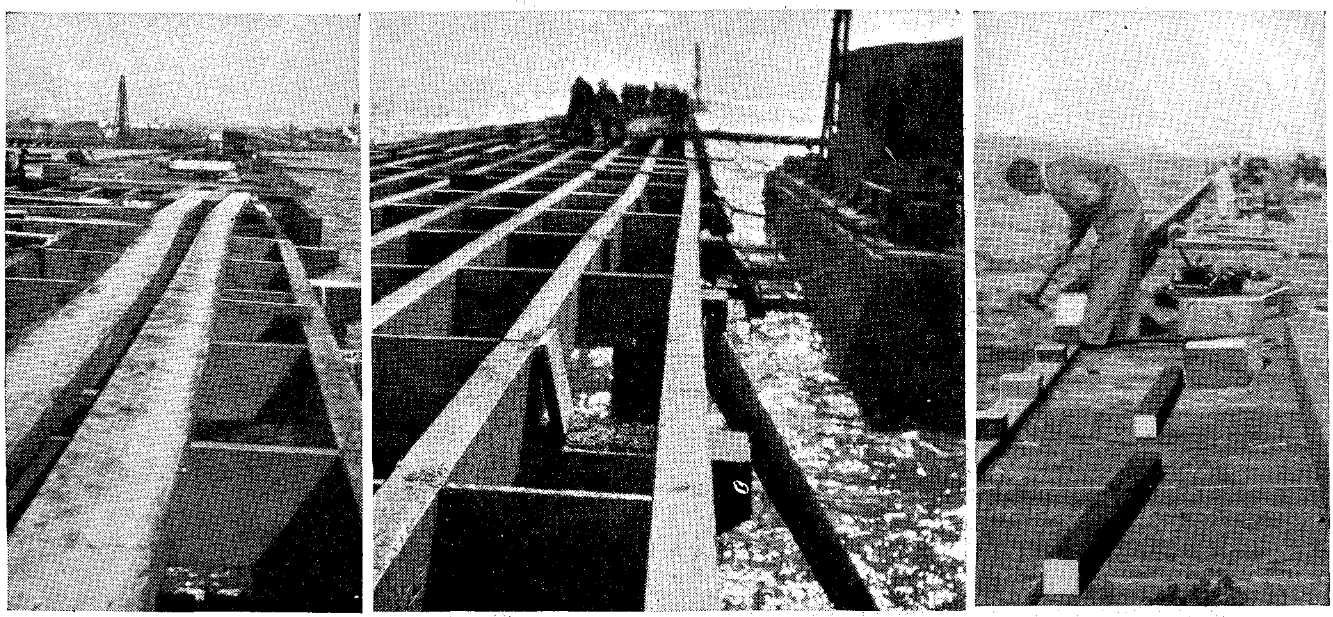
A baseball star swears it is the height of bad luck to pose for a photograph before the first ball is pitched. If he loses, he is apt to go gunning to get himself a blankety-blank photographer!

Babe Ruth is perhaps the most superstitious of them all on that score. He hates to be photographed even after the game is won and the pennant is cinched. His photographs, in which the Babe invariably appears with a scowl, show it plainly enough.

When it comes to being photographed, actors are always actors. Unconsciously or not, they pose in what they feel is their best position. Nine out of ten break into a smile—and hold it. The notable exceptions are the Barrymores. They are serious actors, and they carry out their parts in their portraits.

The comedians, George M. Cohan and Al Jolson, present to the camera the face their public knows best—the twinkling eye and the broad-smiling mouth.

Our presidents, on the whole, have shown comparatively few eccentricities before the camera. President Coolidge was strangely self-conscious of the camera during his early days in the White House. He is what photographers call a "difficult subject." His face must be lighted carefully, or lines and shadows will stand out too harshly. Mr. Coolidge early determined upon the facial expression he wished to show in his photograph, and he has consistently kept to it. His favorite pose is a three-quarter face, his eyes slightly below the line of the lens. He prefers not to look the camera straight in the eye, as was Theodore Roosevelt's habit.



FAMOUS ALL-WOOD CAUSEWAY 3.5 MILES LONG

proves spectacular test of lumber

Golden Gate Ferry Company uses millions of feet in great engineering project . . . Lumber Experts render useful consultation service

A GIGANTIC causeway . . . over three miles long . . . twenty-two feet wide . . . stretching into San Francisco Bay. What an engineering problem!

A rugged foundation must be built to withstand the ravages of time, water and weather. Thousands of vehicles a day must travel the upper structure . . . grueling punishment for any surface.

What material could fill these requirements? That was the question.

Tests were made. Figures were compared. Experts of the National Lumber Manufacturers Association were consulted.

And WOOD was chosen.

Wood because of its endurance qualities. Wood because it made the ideal causeway surface. Wood because it was the *only* material that could meet these rigid requirements.

And today the completed causeway is giving excellent service . . . handling as many as 11,000 cars every 24 hours.

To all manufacturers, shippers, carriers, builders and other users of wood a unique service is now offered. It's a new type of consulting service, sponsored and developed by the National Lumber Manufacturers Association and its 17 great Affiliated Associations.

A service that marks a big step forward in a great nation-wide movement toward the more efficient use of American standard lumber from America's best mills.

It places at your disposal a group of trained men . . . men long schooled in the use of lumber and wood technology.

You have some lumber problem . . . some question . . . that you would like to have some help on.

Clip the coupon below . . . for interesting booklets describing lumber—and this special service.

NATIONAL LUMBER
MANUFACTURERS ASSOCIATION
Washington, D. C.

Offices in New York, Atlanta, Pittsburgh, Boston, Chicago, Indianapolis, Kansas City, Memphis, Dallas, Minneapolis, San Francisco, Portland, Ore.

THESE 17 great associations affiliated with the National Association maintain service organizations that coordinate with the general technical services of the National staff:

California Redwood Association, San Francisco, Calif.—Redwood
California White & Sugar Pine Manufacturers Association, San Francisco, Calif.—California Pines, White Fir
Hardwood Manufacturers Institute, Memphis, Tenn.—Oak, Gum, Southern and Appalachian Hardwoods
North Carolina Pine Association, Norfolk, Va.—North Carolina Pine
Northern Hemlock & Hardwood Manufacturers Association, Oshkosh, Wis.—Hemlock, Maple, Birch and Northern Hardwoods
Northern Pine Manufacturers Association, Minneapolis, Minn.—White Pine, Norway Pine
Southern Cypress Manufacturers Association, Jacksonville, Fla.—Cypress and Tupelo
Southern Pine Association, New Orleans, La.—Long Leaf and Short Leaf Southern Yellow Pine
West Coast Lumberman's Association, Seattle, Wash.—Douglas Fir, Sitka Spruce, West Coast Hemlock, Western Red Cedar
Western Pine Manufacturers Association, Portland, Ore.—Pondosa Pine, Idaho White Pine, Larch
National-American Wholesale Lumber Association, New York, N. Y.
National Association of Wooden Box Manufacturers, Chicago, Ill.
Maple Flooring Manufacturers Association, Chicago, Ill.
British Columbia Lumber and Shingle Manufacturers, Ltd., Vancouver, B. C.
British Columbia Loggers Association, Vancouver, B. C.
Hickory Golf Shaft Manufacturers Association, Memphis, Tenn.
American Wood Preservers' Association, Chicago, Ill.

CERTIFIED BY CENTURIES
. . WOOD . .
Use it—Nature renews it
NLMA

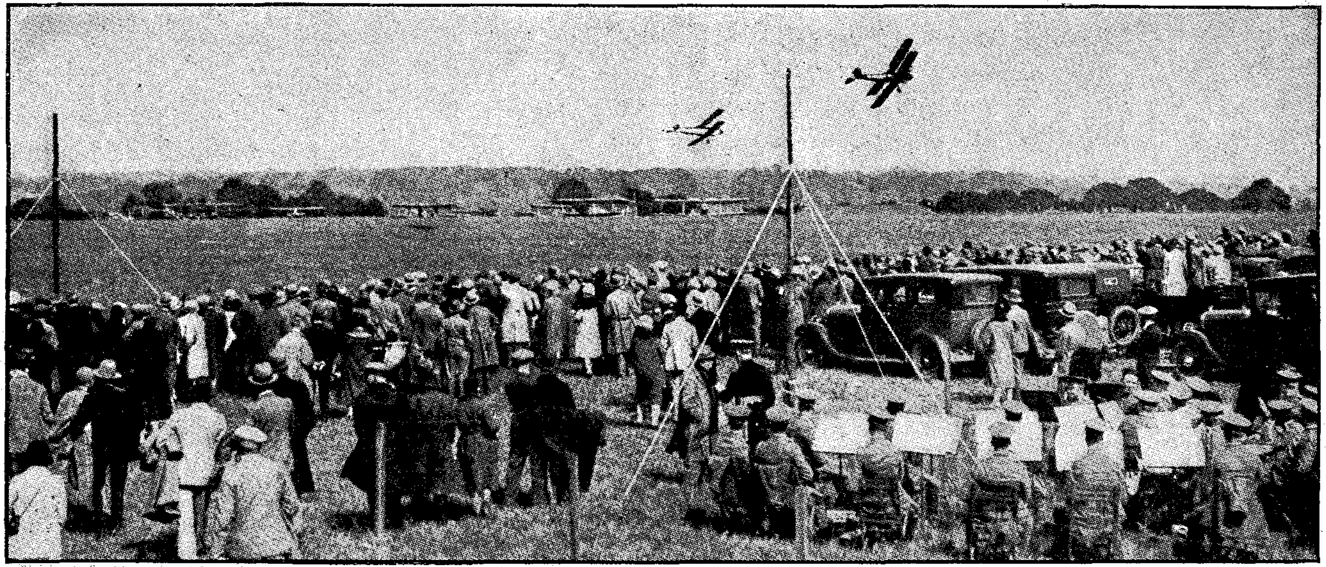
National Lumber Manufacturers Association,
Dept. 151, Transportation Bldg., Washington, D. C.

Gentlemen: Please send me, Free, a copy of the booklet checked below.

☐ **100 Lumber Consultants at Your Service**
☐ **Information on Lumber and Where to Find it**

Name____________________________________
City________________________**State**____________

MOTORING AND AVIATION



Courtesy of *The Sportsman* (Boston)

WHEN AMATEUR AIR FELLOWS GET TOGETHER AND PLAY

The finish of the race for light planes at the Blackpool meeting this year, showing a section of the large crowd that attended.

AND NOW COMES THE AVIATION COUNTRY CLUB

THE SKY WAS FULL OF ALL THE COLORS of the rainbow; also, presently, it was full of darting planes and resounding with the hum of motors and the noise of exhausts. Globes of red, violet, orange, blue, and other colors soared upward, bobbing in the wind. Then, on the ground, there were a roar and a rush as planes took off in pursuit of the bright balloons. Action, and plenty of it, developed at once. Pilots drove their planes in every direction, running down the balloons, and trying to avoid running down each other. For this was the "pilots' joy" competition at the big airdrome at Blackpool, England, in which the score depends on the number of balloons brought down. The occasion was a flying club's program of races and stunts, as George M. Pynchon, Jr., tells us in *The Sportsman* (Boston), and he goes on to describe the present work and status of flying clubs in England, the need of such clubs in this country, and the action being taken to fill the need. For, we learn from *The Sportsman* and other sources, Aviation Country Clubs are already being formed and the first will be in operation presently at Farmingdale, Long Island. Details we shall learn presently, but now let us go back to Blackpool and watch the air program with Mr. Pynchon, who writes:

The loud-speaker announces the first heat of the owner pilots' handicap. Three tiny machines taxi out of the inclosure to take off, and after a wide turn hit the starting line wide out and closely bunched. For ten minutes they fly around a triangular course, apparently without changing positions, but a particularly daring pylon turn puts one several lengths ahead of the other two to win. Without delay the second heat and the finals of this race are run off, with victory rewarding the consummate skill of the winner of the first heat.

There follow the interclub members' handicap for light planes, won at ninety-seven miles an hour, and the interesting open handicap race, which brings out every conceivable type of privately owned machine. Practically every entrant in this race has "improved" his plane with his own hands—in some cases with good results; in most cases, without any. Then comes the interclub relay race, which requires that each member of each team of four land within a given distance of the next team-mate to carry on. The results of this type of competition depend almost entirely on landing and take-off skill, and are fine experience for the amateur pilot.

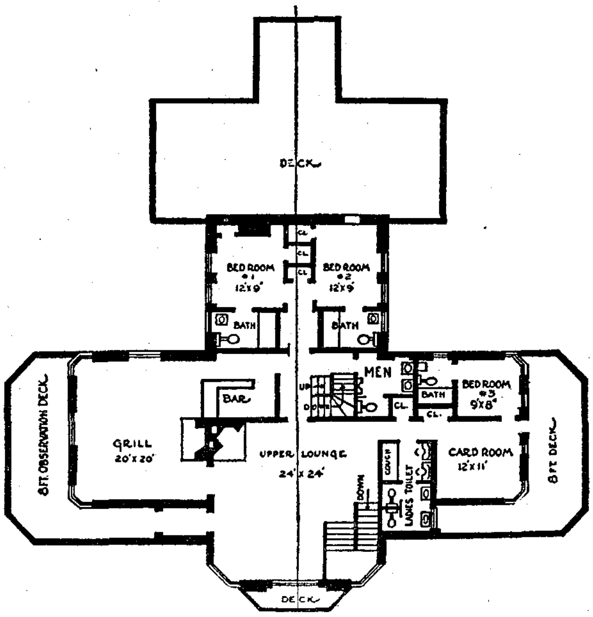


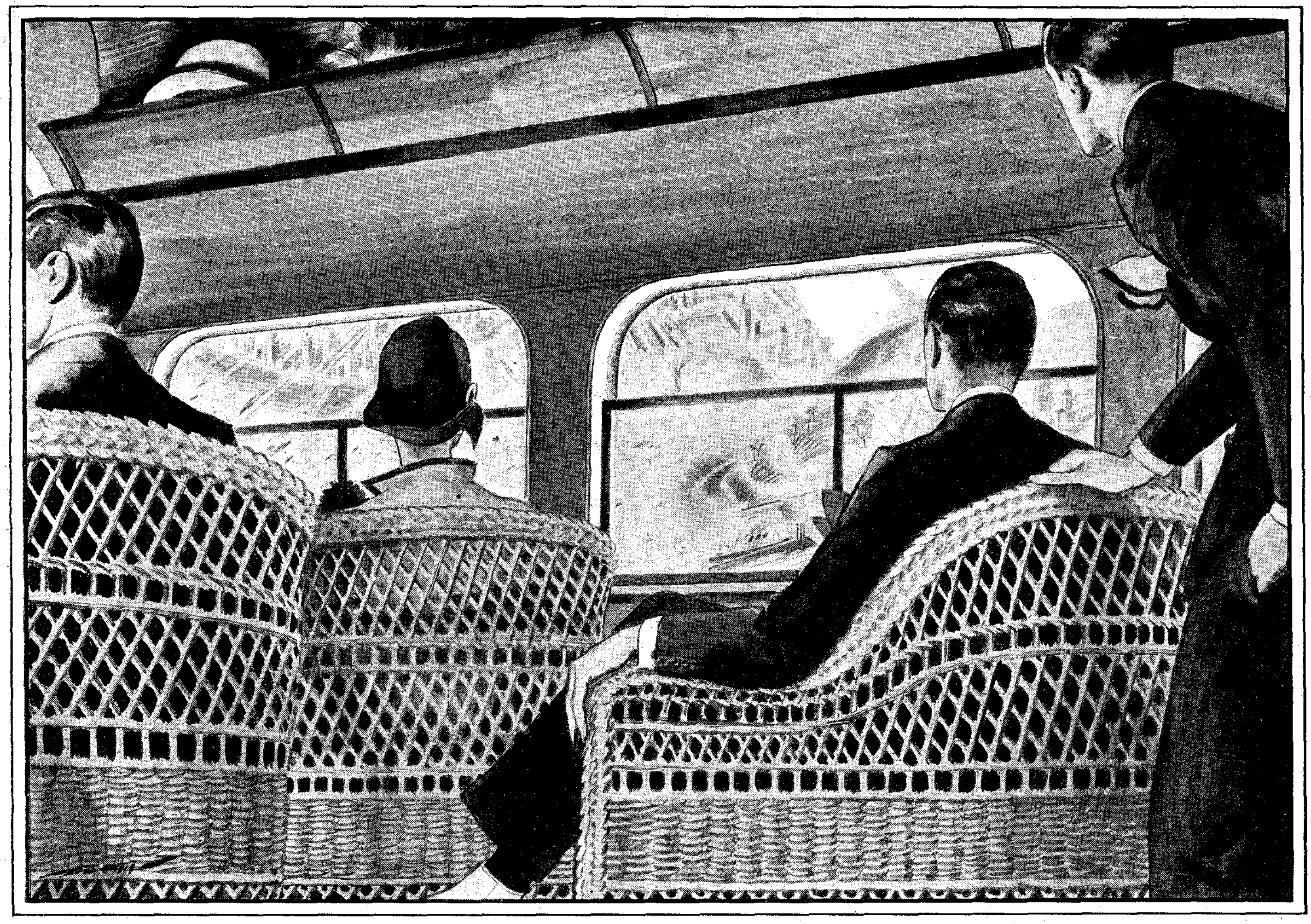
Illustration from *Aviation*

BEHOLD THE AIRPLANE IN ARCHITECTURE

The second floor plan of the model clubhouse designed by Warren Shepard Matthews for Aviation Country Clubs.

One of the two remaining competitions for flying-club teams is the stunt contest, which consists of individual stunting scored on a point system by judges. The judges consider timing and precision first of all, and the complexity of the stunts second. Stunt competitions are the crowd's greatest delight.

Before the Royal Air Force display starts, a famous German stunt pilot puts on a show in his special machine. After rolling across the airdrome with practically no altitude to spare, he climbs quickly and does a series of outside loops—a stunt which up to last year was considered impossible. The German is a bit disappointing in the execution of his first maneuver, for he fails to come up square at the end of the loop, but rather has a tendency to fall off his line. With true Teutonic thoroughness, this pilot tacks on his instrument



FROM SEA TO SEA

Do YOU know San Diego from the sky, with the mauve headlands of Point Loma rolling down into the purple sea? Have you ever flown above the electric blue waters of the Gulf of Mexico, streaked with ships moving to Caribbean ports, and dotted with jade-colored islands tufted with palm trees? Have you ever wondered how it would be to follow the course of the muddy Mississippi, the white-watered Columbia or the blue-green flood of the St. Lawrence from aloft, where only gulls and eagles have flown before? . . .

Today you have it in your power to go flying down to San Diego, to Matagorda Bay or Tampa . . . flying north to Puget Sound, to Hudson's Bay or Newfoundland!

For a new world is unfolding for you who lift to its inspiration. . . . Just as the discovery of America gave a fresh impetus to the imagination and daring of the people of Europe, so the discovery of this New World in the Sky is sweeping men and women of imagination into new realms of accomplishment . . . for the betterment of their business, for the sheer joy and thrill of traveling through space, in the search of adventure.

No longer are they measuring distance in miles. For, though the maximum speed of practical land transportation has reached its limit, airplanes today are cruising at 100 miles an hour; while each year 10 miles an hour are added to this speed; and experts anticipate a practical travel rate of 250 miles an hour within this generation. . . . When Grover Cleveland went fishing at Buzzard's Bay, his journey took two days from Washington; when Calvin Coolidge goes fishing in Wisconsin, his mail from the Capital reaches him in nineteen hours.

A business man flies 1500 miles to Texas to spend week-ends with his family. . . . For about $400 you can cross the continent through the air in 30 hours. . . . Oil men in Oklahoma think nothing of flying 50 to 70 miles into Tulsa for luncheon. . . . A New York broker conveniently commutes to Virginia by plane; while planes are flying literally in flocks at all the shore resorts, from Newport and Southampton to Miami; from Tampa to Coronado Beach and thence northward to the green-shadowed waters of the Olympic Peninsula. All inland cities of importance are joined by invisible trails along which hundreds of planes, carrying mail, passengers and freight, are flying.

Those who have seen the performance of the subsidized planes of Europe may learn with astonishment that the freely competing, unsubsidized service of the United States is already well ahead of Europe.

The nation that leads Europe in commercial aviation possesses less than a hundred flying-fields; *the United States has many more than a thousand and our international lines are rapidly extending.* The great success of tri-motored planes on tremendous flights across the Atlantic, across the Pacific, across the Arctic, across the Gulf of Mexico, gives promise that travelers may soon wing southward in the comfort of a Pullman car to Mexico and Central America, to the Lesser and the Greater Antilles, and perhaps to the continental capitals of South America. These routes are already being surveyed.

Such planes as the giant, all-metal, tri-motored Ford, *with a million miles of successful flight under all conditions to its credit,* are already at hand, opening up these routes.

FORD MOTOR COMPANY

1761

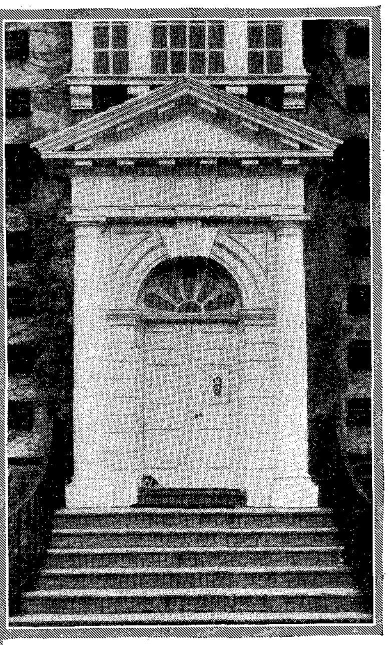
Best of PHILADELPHIA'S Georgian Period

Sargent makes hardware for your Colonial doorway similar to the antique pieces in famous Mount Pleasant

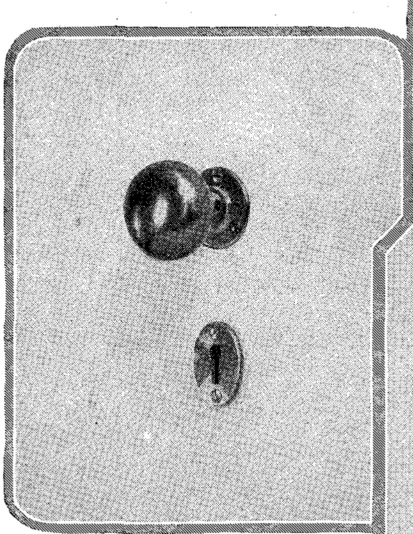
JOHN ADAMS, who dined at Mount Pleasant in 1775, termed it "The most elegant seat in Pennsylvania." Benedict Arnold bought it for his young bride, and afterwards it was confiscated by the State. Baron Von Steuben leased it just before receiving his marching orders for the Yorktown campaign.

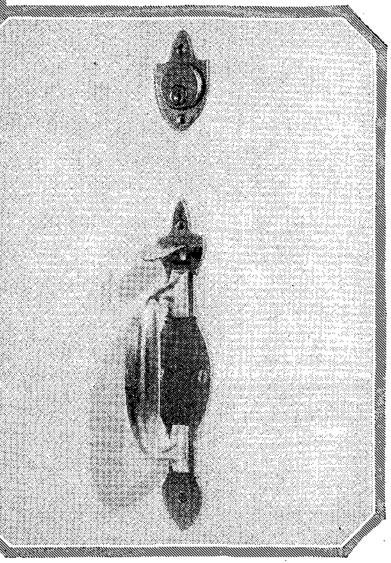
Here, at Mount Pleasant, now restored by the Pennsylvania Museum, are unexcelled examples of Colonial craftsmanship. Here, too, is hardware similar to pieces made by Sargent in present-day New England. Sargent makes authentic designs for many periods and styles. In solid brass and solid bronze. Painstakingly machined and carefully fitted to give long years of silent operation.

Send for the Sargent book of designs, "Hardware for Utility and Ornamentation," free upon request. With your architect, choose from it those pieces correct for your home. Sargent & Co., 40 Water St., New Haven, Conn.



This doorway, the west entrance to Mount Pleasant in Fairmount Park, with an antique plain brass knob and keyplate, is pictured here the way it would appear with a Sargent eagle knocker.





Knob No. 1618 and keyplate 711, above, are similar to those used on the entrance of Mount Pleasant. Sargent also offers similar doorknobs connecting with cylinder locks. To the right is an entrance handle (No. 3161) of authentic design for Colonial work, connecting with a cylinder lock.

SARGENT
LOCKS AND HARDWARE

MOTORING AND AVIATION
Continued

board a typewritten program, giving the order of each trick, the time it should take, and the altitude at which it should be performed.

The Royal Air Force display consists of some beautiful formation flying, stunting in formation, maneuvering by radio telephony, and individual combat. The show is closed by a raid on a realistic imitation of an "enemy" camp by a colossal formation of bombers and their protecting single-seaters.

As soon as the last bomb has burst, there is a stampede toward three large cabin ships that have been resting quietly in one corner of the field throughout the display. From now on until dark these machines will be busy "joy riding" passengers for ten shillings a head.

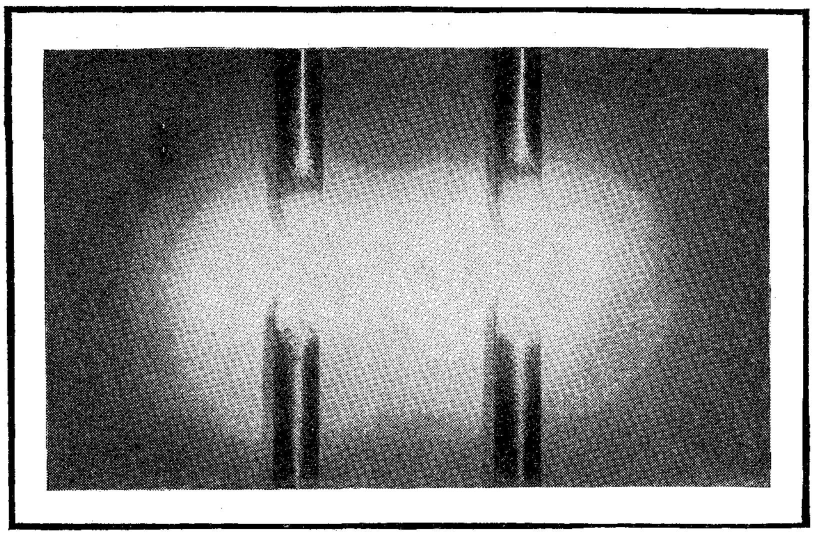
One is amazed at the enthusiasm and interest shown at these meetings in England. They occur during the summer at Bristol, Hampshire, Midland, and Blackpool. These are official club meetings, but all of the other clubs hold meetings of their own, and there is always a colossal crowd attending. In addition to these meetings there are many cross-country races which arouse great interest, the most important being the King's Cup race.

At least 5 per cent. of British flying-club members are women. Indeed, it was a woman, Lady Heath, who first exploited the ultimate possibilities of sport flying by her trip around Africa and home to England this year.

Now we turn our attention to America. In this country, Mr. Pynchon writes, flying clubs are just being considered. Reading on:

One thoroughly intelligent movement is under way, known as the Aviation Country Clubs. It is recognized that there are many wealthy people in the United States passively interested in aviation. Furthermore, it is patent that there are tens of thousands of people of moderate means who are actively interested in flying, but who can not satisfy their desire to be in the air because of the high cost of aviation. Finally, there are numberless people who would fly, (a) if fields were more conveniently located, (b) if the fields that do exist were pleasanter places to visit, (c) if they knew more about flying. The needs of this situation can be satisfied only by properly organized clubs, which should function much as yacht clubs do, but affiliation of the various clubs is of infinitely greater importance because of the service requirements of airplanes. The plan of the aviation country clubs provides for just such a string of affiliated clubs, each with its own private ground, with three classes of membership—proprietary, life, and annual. Each club has complete control over its own organization, but there is a national board to promote "cohesion of thought and effort."

The importance of pleasant surroundings at the flying bases can not be overemphasized. Sport is essentially pleasure, and if conditions surrounding it are not exciting, they must be pleasant. A flying club should offer the same incidental social advantages that a yacht or country club does, and until flying clubs do, they will fail. The aftermath of the sport is, perhaps, its pleasantest phase. Therefore, until airplanes are so designed that they



Like the Sun Itself

The miracle of sunlight's essential rays reproduced by the carbon arc lamp

SUNLIGHT is a mixture of rays. Some are light rays; some heat rays. Some are visible; others cannot be distinguished by the eye but have remarkably beneficial effects upon us all.

These essential rays of sunlight are all reproduced in their natural proportions when Eveready Sunshine Carbons are burned in a carbon arc lamp.

Reporting on its tests of such light, the U. S. Bureau of Standards stated: "Of all the artificial illuminants tested, it is the nearest approach to sunlight."

Eveready Sunshine Carbons now are available not only to physicians and hospitals, but to every home where there is electricity. Literally, these carbons bring sunshine indoors. Every lamp in which they are burned is a miniature sun, to be turned on or off at the touch of a switch.

This reproduction of sunlight will do for you just what natural sunlight will do. Moderate exposures will in time bring to you the ruddy tan of summer health. Even if you do not expose yourself long enough to tan, still you will experience a new feeling of physical fitness and perfection, for the light stimulates and vitalizes and builds your health to higher levels. If you expose yourself to it too long, it will sunburn your skin and may cause serious systemic disturbances, but proper use will cancel the dark and gloom of the winter months that are so unhealthy because much of the sun's vital light is missing.

Light is not a cure-all, however. If you are sick, see your doctor. He may or may not use light, depending on the nature of your trouble. At his command are many types of Eveready National Therapeutic Carbons, which are sold on physicians' prescriptions only.

Adequate and dependable carbon arc lamps for the use of Eveready Sunshine Carbons are sold by medical supply houses and some electric light companies. If you have difficulty in finding a suitable arc lamp, write us and we will send you a list of arc lamp manufacturers. Write to the National Carbon Company, Inc., Cleveland, O. Unit of Union Carbide and Carbon Corporation.

UCC

EVEREADY
Sunshine Carbons
TRADE MARK

MOTORING AND AVIATION

Continued

can be kept in small garages, and everyone who flies has his own machine, Americans must emulate the English and do their flying in clubs if they would get the fullest measure of sport.

The first of the aviation country clubs will be in operation at Farmingdale, Long Island, in a few months. It is estimated that at this club members will learn to fly for less than half the rate commonly charged at commercial fields. Licensed pilot members will be able to hire excellent equipment at a correspondingly low rate, to take anywhere they please.

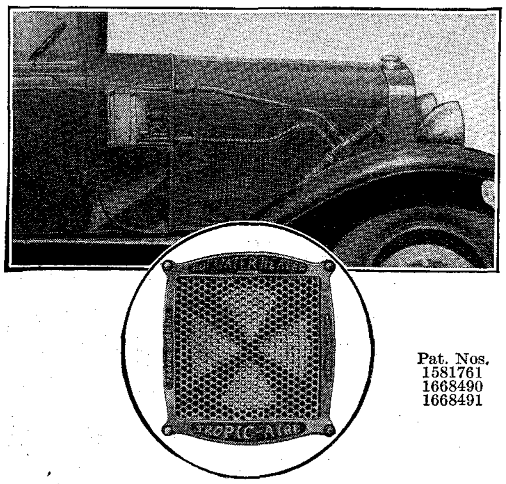
The club at Farmingdale will be the first "Aviation Country Club" in America, we read in *Aviation*, which continues its description of the project:

> It was formed by those living in and near New York who are members of Aviation Country Clubs, Inc., a non-profit organization incorporated under the laws of the State of New York to act as the parent body for the proposed chain of flying clubs. These clubs, according to the plan, will be located near the principal cities of the country and, it is expected, will do much toward popularizing aviation among those of the wealthier classes by providing a congenial atmosphere for their participation in flying as a sport.
>
> Each unit in the entire chain will have a private flying field with all the necessary equipment. There will be hangars, machine shops, and storerooms. Each will maintain a fleet of planes for the use of its members, and a regular course of instruction is to be provided for those who do not know how to fly. The planes will be used also to provide an aerial taxi service for members. Hangar space is to be furnished for the private planes owned by the members. Servicing of these and the club planes will be performed by expert mechanics in the employ of the club, just as the flight instruction will be conducted by pilot-employees.
>
> While flying will be the center of activities, the social end of club life is not to be neglected. Each of the individual flying clubs will have its own clubhouse, which it is planned will compare favorably in size and furnishings with the structures now in use by some of the best country clubs. Dances, card parties, and other similar forms of amusement will be arranged. For the accommodation of the members, there will be a lounge, dining-room, kitchen, office, first-aid-room, locker-room, showers, bedrooms, a grill-room, and card-rooms in each club.
>
> There will be no local memberships. All memberships granted will be in the national body; but the members will govern the affairs of the individual clubs with which they are affiliated, in a manner similar to the way in which the residents of any given State govern the affairs of that State.
>
> The reason for the adoption of this system by the organizers of the movement is explained clearly in a club brochure.
>
> "Flying, by virtue of its very freedom from the restrictions of short distances and prescribed routes, takes on a far broader scope than the activities of the usual social club—golf, tennis, or polo," the booklet says in part. "As an activity, it quickly becomes national and, by the same token,

Greater DRIVING COMFORT

"for those who don't go south"

HOT WATER HEATED



Pat. Nos.
1581761
1668490
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As clean and dependable as your home hot water heating plant

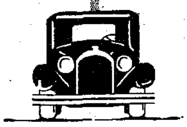
CLEAN, uniform *hot water heat*, long a winter delight in better homes, is now available for your motor car! An entirely new standard of winter driving comfort!

All the old annoyances of fumes, smells and carbon-monoxide gas are eliminated by Tropic-Aire. There's no connection with the manifold or exhaust system.

Tropic-Aire is tucked out of the way, back of the instrument board. Its electric fan gently and constantly circulates welcome warmth throughout the car. (Even in long buses Tropic-Aire keeps the back-seat passengers warm as toast.)

Simply Turn the Switch

Its hot water is drawn from the engine, the first to heat, the last to cool. You can maintain home temperature in the coldest weather, regardless of car speed, even while the engine is idling. The fan motor uses no more current than a tail-light. Controlled by a switch on the instrument board. Gives any desired amount of heat, or can be shut off entirely.



Made for all cars, buses and taxicabs. Ask your car dealer for this dependable hot water heater or write us for full information giving make and model of car.

TROPIC-AIRE INC.

1030 Ramsey St. N. E. Minneapolis, Minn.

Reg. U. S. Pat. Office

TROPIC-AIRE HOT WATER Automobile Heater

It Will Help You . . .

A QUART OF MILK a day
for Tuesday

To use more milk—to be sure that it is pure, rich, safe milk—all experts in the science of nutrition agree that this is the way to surer health. ***Not Always Easy.*** It hasn't always been easy to put a quart of milk in the daily diet. It has often been very difficult to be sure that the milk was pure and rich and safe. Most of the volume of ordinary milk is water. Only 12½ per cent of it is food. We can't tell by looking at it whether it is pure milk. We can't see the food substances. Neither can we see the dangers that have often been hidden in it. Most of us don't like to drink it. It has been difficult to put the required amount in cooked food. For our cereals and fruit and coffee we have wanted the richer flavor of cream. But cream doesn't take the place of milk. ***We Now Know the Way.*** Evaporated Milk—more than twice as rich as ordinary milk because 60 per cent of the water has been removed—helps to put in the daily food the milk solids we need. A pint of this milk is equal to more than a quart of ordinary milk. In many cooked dishes twice the amount of milk solids can be included—making richer-tasting and more wholesome food. As rich as cream in milk solids, it can be used in place of cream, giving the rich flavor we want, and giving us also the food substances which make milk—*not* cream—the most important item of all our food. ***We Know It's Pure and Safe.*** Pure, fresh milk, concentrated, put in sealed cans and sterilized, Evaporated Milk cannot be other than pure and rich and safe. The concentration makes the richness certain. Sterilization makes the milk surely free from anything that could endanger health. The sealed can protects the purity as it does the freshness and richness. When you use Evaporated Milk you *know* that you have pure, rich, safe milk. ***The New Recipes.*** Home Economics experts have conducted experiments to find ways of putting more milk in the diet through the use of Evaporated Milk. They've found the places where twice as much milk can be used. They've tried and tested the recipes even to having experts taste the dishes. Uses in place of cream have been developed. Tests with children have shown that they will readily learn to like the milk to drink in place of ordinary milk. Expert authorities have found that it is the best of milk for babies. ***Send for Our Booklets.*** The results of these experiments are given in the booklets which we will send you free of charge. You will find Evaporated Milk in every grocery store in America. It costs no more—in many places less—than ordinary milk for every milk use. Used in place of cream, it costs less than half as much as cream.

Send for the book

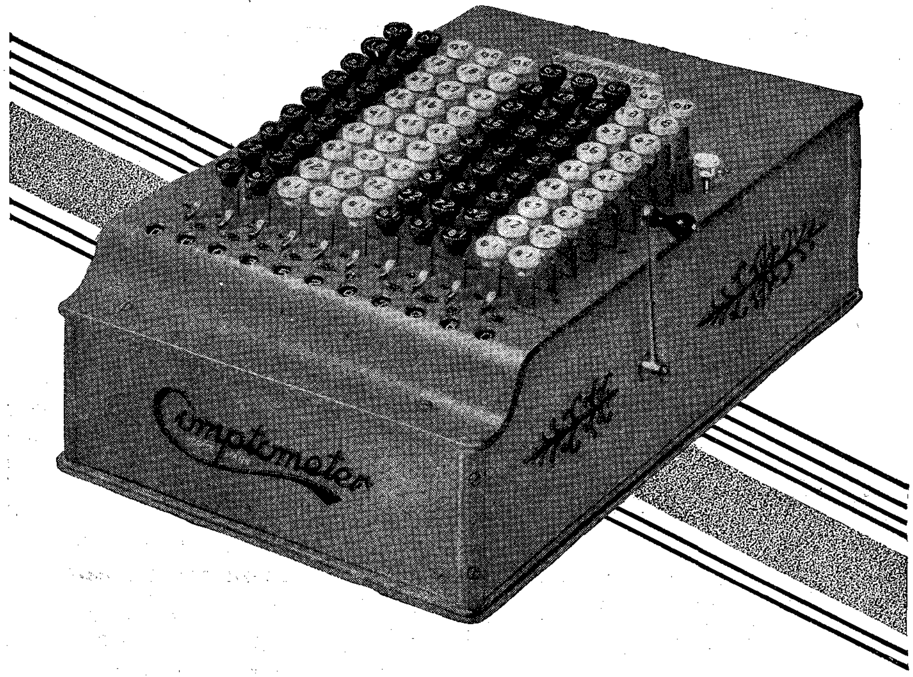
Evaporated Milk Association, 958 Illinois Merchants Bank Building, Chicago

I would like to have your free booklet "A Quart of Milk a Day."

Name ____________________

Address ____________________

City ____________________ *State* ____________________



The Economy of Speed in Figure Work

In the battle for lower costs of machine figuring, Speed-with-Accuracy is the dominant aim. Accuracy, of course, is indispensable.

You can get accuracy with either mental or machine figuring by slow, painstaking care, checking as you go along. A safe way, but too expensive. For real economy speed must be joined with accuracy.

Speed has always been a distinguishing feature of the Comptometer. For forty years the Comptometer has held its place as the high-speed machine for all adding and calculating.

With the introduction of the Controlled-Key (found only in the Comptometer) came the system of automatic control which safeguards operation at highest speed, by compelling correct mechanical operation of the keys.

This coupling of speed-with-accuracy in the Comptometer makes for greater production of, *not one alone*, but every kind of figure work at less cost.

Proof of its effectiveness may be determined by an infallible test—the test of measured production.

Try it out for yourself. Time it on a cross-section of your daily routine for comparison with your present figure work costs; or compare the results with the performance of other machines.

A Comptometer man will be glad to assist you in making the test, if you so desire.

FELT & TARRANT MFG. CO., 1731 N. Paulina St., CHICAGO, ILL.

CONTROLLED-KEY
Comptometer
REG. TRADE MARK
ADDING AND CALCULATING MACHINE
Only the Comptometer has the Controlled-key safeguard
If not made by Felt & Tarrant it's not a Comptometer

MOTORING AND AVIATION
Continued

the formation of flying clubs logically must be considered from the national, rather than from the local viewpoint.

"Membership in Aviation Country Clubs carries full membership privileges in all the flying clubs formed. It will be but a short time before a member can make 'The Aviation Country Club Tour.' He can actually circle the United States in comfortable, easy 'hops' from club to club. He enjoys not merely the courtesies of each flying club, but actually a full and complete membership in every one."

Returning to Mr. Pynchon's article in *The Sportsman*, we discover his belief that it is strange that England should surpass America in club flying, because the former land, we are reminded, is one of short distances, bad weather, and high land values. Nevertheless, club-flying flourishes, and, we read:

> Private flying in this country has been carried on by individual purchasers of airplanes for sport use, and these airmen, satisfied with the service of commercial fields, have failed to see the advantages of the flying club. In England, of the thousands of individuals who fly, only twenty-five or thirty own their own machines. The rest get their flying at the thirteen subsidized clubs and the numerous small unsubsidized clubs.

A FEW ANCESTORS OF GERMANY'S *GRAF ZEPPELIN*

A MOUNTAIN peak loomed up in front of the helpless, drifting ship. Against the rocky face of the mountain the dirigible plunged with its helpless crew, like an ocean vessel striking an iceberg. For mountains, when they stand in the path of air travel, are the icebergs of the airplane and the Zeppelin. The impact of the crash "sheared off the control car and rear engine gondola, and the rest of the *L-50*, freed of the weight, leapt high above the Alps, a derelict, with four of her crew still aboard." The *L-50*, Howard Mingos tells us in "The Story of the Zeppelins" in *The World's Work*, was a German craft, damaged by storms after a war-time attack on England, and trying to make its way home. Mr. Mingos's brief history of some adventures in the air comes, with great timeliness, just after the transatlantic flight of the *Graf Zeppelin*, described in our two preceding issues. Among the dirigibles, built in Germany and elsewhere, discust by this author, are the *Dixmude*, our own ill-fated *Shenandoah*, and a host of German aircraft bearing no more romantic designations than letters and numbers, such as the *L-50*, to whose plight we now return. The survivors who had been hurled to the earth in the crash against the mountain crawled out of the wreckage one by one. As they struggled down the mountain, says Mr. Mingos, "they could see the *L-50* drifting,

"Reach for a Lucky when you crave something sweet

That's the easiest way I know to keep from getting fat"

Florenz Ziegfeld

Famous Producer of Musical Comedy

LIGHT a Lucky Strike when you are tempted to eat between meals—they satisfy the craving for sweets and rich pastries. That's why thousands now reducing smoke them constantly.

A year ago 20,679 physicians put themselves on record in confirmation of the fact that Toasting makes Lucky Strike less irritating to the throat than other cigarettes. That's because Toasting removes impurities. Toasting also improves the flavor of the finest tobaccos. That's why the delicious toasted flavor of Luckies makes them a delightful alternative for things that make you fat. Avoid harmful methods to reduce. This way is merely common sense.

Men who keep fit have long employed it. They don't believe in tiresome, expensive ways. They do believe that Luckies do not hurt the wind or impair the physical condition—facts upheld by prominent athletes, who are in a position to know the truth.

When you are offered a sweet . . . when it comes time for pies and pastries . . . pass them by and take a Lucky. Then you'll never miss sweets.

LUCKY STRIKE
LUCKY STRIKE
"IT'S TOASTED"
CIGARETTES

Florenz Ziegfeld, "Glorifier of the American Girl," and Jean Ackerman and Gladys Glad of Mr. Ziegfeld's new success, "Whoopee."

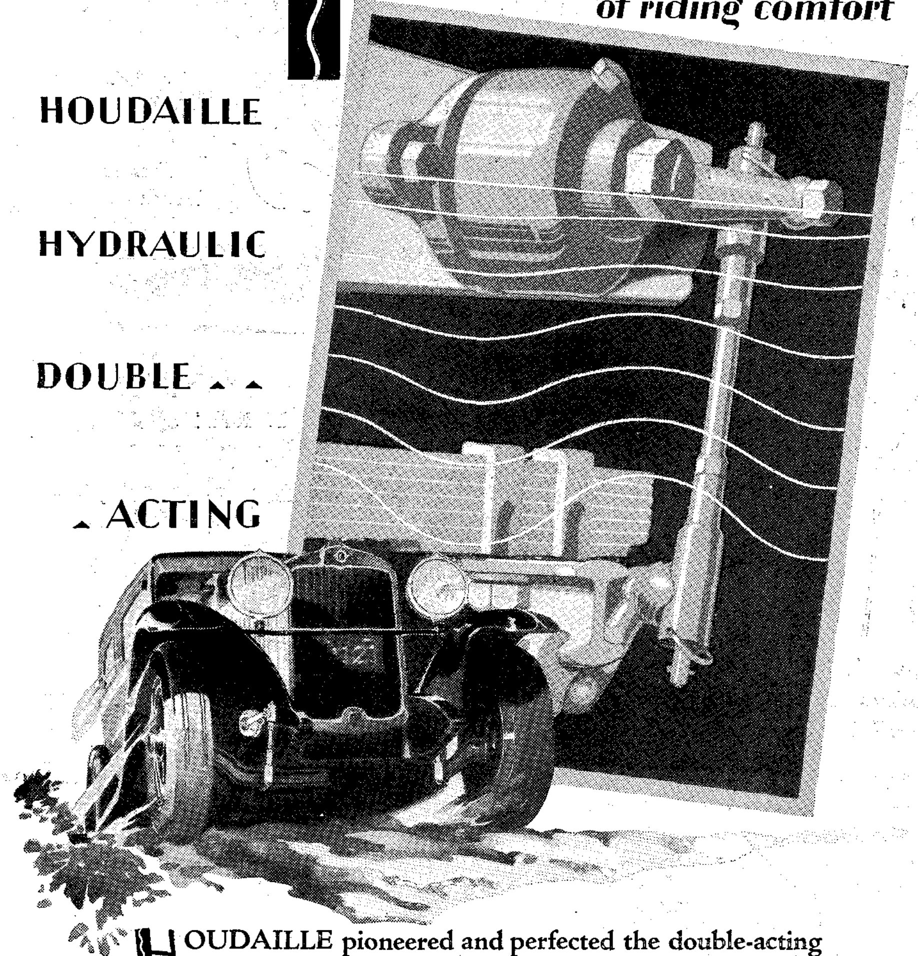
Reach for a Lucky instead of a sweet.

"It's toasted" No Throat Irritation No Cough.

© 1928, The American Tobacco Co., Manufacturers

4 Words

made obsolete all former ideas
of riding comfort



HOUDAILLE

HYDRAULIC

DOUBLE

ACTING

HOUDAILLE pioneered and perfected the double-acting hydraulic shock absorber. Now thousands of critical car owners and exacting engineers specify Houdailles. For Houdailles are not in the experimental stage but have been tried and tested over a period of years.

Hydraulic—their resistance is always in proportion to the speed of spring movement. Precision-built of the strongest steels, no relief valves are necessary to relieve high pressures. Houdailles *do not* lose their effectiveness on rough roads.

Double-Acting, like your car springs, Houdailles prevent "striking bottom" and kill recoil before it starts! Connected by a steel arm, they move as fast as your springs.

Hydraulic . . . Double-acting . . . smoother riding . . . higher speeds . . Houdaille performance justifies their cost. That is the verdict of engineers who made them standard equipment on Lincoln, Ford, Pierce-Arrow, Nash Advanced Six, Stearns-Knight, Jordan, Cunningham and thirty-three European cars.

Send for the wonderful story of Houdaille and the actual experiences of a car owner, as told in our interesting booklet, "What I Didn't Know about Shock Absorbers."

HOUDAILLE
Hydraulic Double-Acting
SHOCK ABSORBERS

HOUDE ENGINEERING CORP., Dept. LD 11, 537 E. Delavan Ave., Buffalo, N. Y.
Please send me your booklet, "Some Things I Didn't Know About Shock Absorbers."

Name..

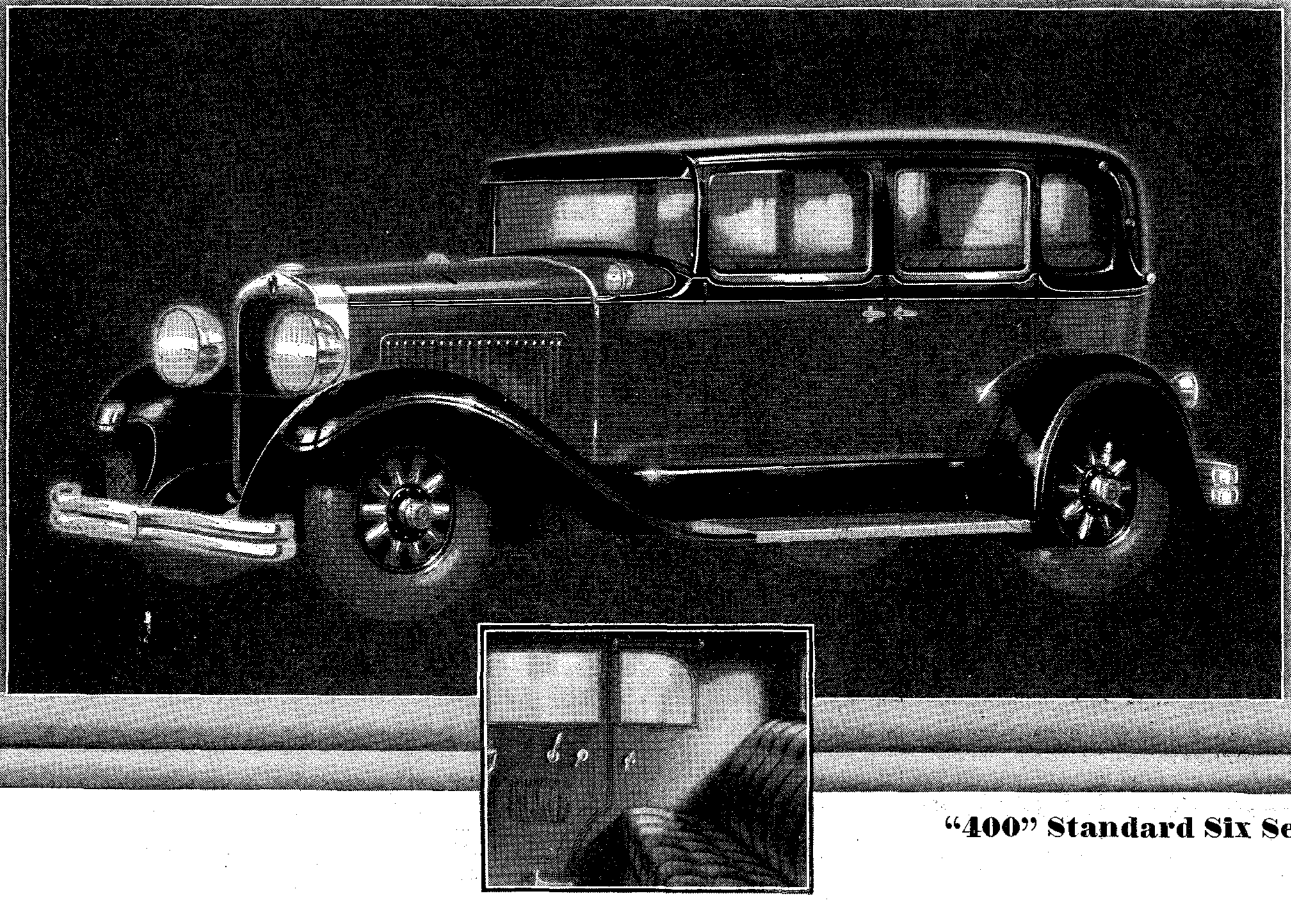
Street..................................*City*..................................

MOTORING AND AVIATION
Continued

a mere speck in the sky. No trace of her was found. She probably collapsed into the Mediterranean." This entire trip of the *L-50* and her companions was full of hazard. Going to the beginning of it, we read:

> Eleven airships raided England on a midnight in October, 1917. As soon as they could drop their bombs they sped homeward, urged to more than usual haste by signs of a northern gale. Five of the ships were late starting back, or their commanders were inexperienced with storms at those heights.
>
> They turned eastward, thinking their compasses would direct them across the North Sea to Germany, but they had not considered the force of the wind, which raced madly at eighty miles an hour. The five Zeppelins were gradually blown southward. The air was freezing cold. The war-craft contained no comforts, and the crews suffered horribly. Daylight found them far back of the battle front in France. One of the commanders managed to send his ship up to 24,000 feet, and all hands labored mightily to keep it there, casting out even their toothbrushes and razors, and finally their fur-lined jackets, to lighten the ship so that it would stay high enough to elude the French. The crew was one of the ablest in the service; and for that reason they managed to slip back into Germany unobserved. The others did not return.
>
> The *L-40* was shot down over the lines. The *L-45* and *L-49* cruised about until the fuel gages warned the engineers that the motors would soon be idle, in which event the big ships could not be controlled. They were praying for the wind to shift and blow them eastward. Zeppelins had been operated like free balloons before when the engines froze in high altitudes or those still in the experimental stage failed to function. But the wind persisted from the north with the same deadly velocity. The two ships were forced to come down. The men of the *L-45* came to earth where there were no soldiers at the moment and before the French arrived on the scene they managed to burn their ship.
>
> Those on the *L-49* also landed, but their ship was so depleted of its gas supply that they could not burn it. Contrary to some opinions, hydrogen does not explode: it burns, but when it is mixed with a certain quantity of air burning is impossible. A party of French soldiers came up before the Germans could destroy their books. Some time later the technical plans of that Zeppelin were distributed to all the Allied governments, and from them our *Shenandoah* and some of the British airships were fashioned, with alterations.
>
> In the afternoon only one Zeppelin remained over France—the *L-50*, and she could not get down. She had sped past Paris and then swerved eastward toward the French Alps, where her captain, Schwonder, hoped to dodge into Switzerland. But she was cruising at great heights; some of the crew had frozen feet and hands. All of them were using oxygen to keep themselves alive in the rare atmosphere. They had been in the air more than twenty-four hours, part of the time on a nerve-wracking raid and subjected to anti-aircraft shells—"flaming onions" that would fire their ship if they made a hit—

THE WORLD HAS A NEW AND FINER MOTOR CAR



"400" Standard Six Sedan

THE same sparkling style that you find in America's most expensive cars, you find also in the new Nash "400" Standard Six, priced *well-under-$1000*. Tomorrow's motor cars, all of them, will be low, slender, graceful, *like the Nash "400" today.*

The Standard Six "400" is a smart car, and a big one. Its charming Salon Body is commodious and very comfortable. Its wheelbase is longer. You will be simply amazed at the size and luxury of this car, when you remember that it is priced *well-under-$1000.*

No car in all motor car history ever has equalled "400" Standard Six value and desirability, at anything like the price. A big 7-bearing, high compression, full-pressure-lubricated motor powers it. Bumpers front and rear and 4 Lovejoy hydraulic shock absorbers are standard equipment without extra cost. Wood or disc wheels are optional at no advance in price.

See this car, drive it. *We'll leave it to you,* if a price *well-under-$1000* ever bought so fine a motor car before.

9 Sedans from $885 to $1990 f. o. b. factory

8 Coupes, Cabriolets, Victorias from $885 to $1775 f. o. b. factory

NASH "400"

(9065)

Leads the World in Motor Car Value

1 or 2?

Beauty and Protection *for Both*

IODENT is the ideal *cleansing* dentifrice because it is specially compounded in two textures for the two recognized classes of teeth—Iodent No. 1 for teeth easy to whiten; Iodent No. 2 for teeth hard to whiten.

You undoubtedly know which kind of teeth you have and can easily judge which IODENT will suit you best.

For example, children and many young adults usually find that Iodent No. 1 is best for them. Other folks—especially smokers—can remove smoke stains and keep their teeth white by using Iodent No. 2.

Dr. A. J. Lautmann, a registered member of the dental profession and president of this company, created Iodent. Thousands of other Dentists use and recommend it. They know the beneficial effect on the gums of its iodine content(potassium and calcium iodides in easily soluble form).

IODENT does more than keep teeth clean and white. It promotes firm, pink, healthy gums. Your dentist will confirm these facts. And you'll enjoy using Iodent because it tastes so good.

IODENT CHEMICAL COMPANY
IODENT Building Lafayette Blvd., Detroit

FOR TEETH HARD TO WHITEN
FOR TEETH EASY TO WHITEN
BLUE TUBE
RED TUBE
IODENT THE IODINE TOOTH PASTE
IODENT THE IODINE TOOTH PASTE
No. 1
2

TOOTH PASTES *and* TOOTH BRUSHES

MOTORING AND AVIATION
Continued

and most of the time from three to four miles above the earth.

Gradually the oxygen supply became exhausted, first in one of the wing gondolas, then in another. The mechanics collapsed. The engines rattled on unattended. No help came to them. None could learn whether the mechanics were unconscious or dead, for the officers and men in the control car were spent and unable to climb into the hull. They had economized on oxygen, taking turns at the wheels, which barely moved under their fast-waning strength.

One officer remembered that a reserve supply of oxygen lay in the hull corridor near the bow. He tried to get it but collapsed at the foot of the ladder. Finally the entire crew lay helpless, unable even to look out into the frozen world through which war's fortune was taking them. Now and again they passed over a battery, which would take potshots at the ship; but she continued aimlessly, at speeds set by her commander six hours before, and repeatedly lunged earthward and then zoomed up in the grip of the relentless north wind.

We have already witnessed the final disappearance of the *L-50*. Continuing, we learn that throughout the war the British were the keenest observers of Zeppelin activities. Quoting further:

They became advocates of lighter-than-air when an official board reported that the German monopoly had wrought "grievous harm." One of the episodes on which they based their conclusion was the manner in which airships had performed as scouts at the Battle of Jutland. A Zeppelin had even fought part of the British fleet the morning after the main battle.

At five o'clock in the morning a Zeppelin sighted smoke clouds and ten minutes later came upon twelve battle-cruisers and several smaller ships—like mother ducks out with their young—heading toward Scotland at high speed. After this information had been wirelessed to the German Admiral, the Zeppelin turned eastward, still keeping the enemy in sight. Off in the opposite direction her commander's glasses revealed six British dreadnoughts and auxiliaries.

The two lines soon came together and in the early morning haze the lookouts heard the engines overhead. The Germans had been waiting for the mist to clear, lurking only a mile above and not caring to go higher for fear of losing sight of the enemy. The surface craft lost no time. Their turrets swung round, the muzzles of their big guns were pointed skyward. The Zeppelin men were probably the only ones ever to stand within sight of a fleet while it fired its big guns at them. They stood there for an hour. Even when banks of fog obliterated the vessels they could see the great flashes of flame as whole salvos were fired.

The Zeppelin was jolted like a ship on the rocks by the concussion of the shrapnel bursts on all sides. Sixty minutes seemed weeks to her crew, and they were happy when the captain, finding the cruisers directly under him, sent down his biggest bombs. But the mist prevented range finding, and the aimless fire, from so many vessels with their guns sweeping the sky

Campbell's
Electric Exerciser

Here's Health

Made in 2 models—floor model and portable model

Are You Troubled with Overweight?

Would you like to keep in good physical condition without heavy exercise? Here is the practical solution to your problem. Without physical exertion—without muscular development, you can still keep legs and arms supple—keep the entire body system toned up in glorious health. The Campbell Electric Exerciser

Massages—Vibrates —Keeps Weight Down

Campbell Exercisers are supplied in two models. Floor model, as shown above—mounted on rubber feet—stands securely without permanently attaching to floor. Portable model, as shown to the left—easily and simply attached to window sill or may be placed on any table top and securely held in place. Mounted upon heavy felt pads—does not scratch the window or table. Both models are quiet, safe, and have all moving parts enclosed.

POPULAR PRICE. Write and let us quote you our
SPECIAL OFFER
which brings you either model at surprisingly low cost.

Wm. Campbell, *President*
The William Campbell Company
401 Union Avenue Alliance, Ohio

Earn money AT HOME

Men or women earn $25 to $50 a week at home. All or part time. Fascinating work. Nothing to sell. We teach you at home. Furnish all tools and materials. ARTCRAFT STUDIOS, Dept. 85, 427 Diversey Parkway, Chicago.

Don't neglect a Cold

Just Rub Away Danger

safe relief

Serious illness often starts with a cold. Ward off your colds with Musterole (it may prevent pneumonia). Don't take chances. At the first warning sign, rub Musterole on the chest and throat. It tingles, penetrates and draws out soreness. Musterole, is a counter-irritant that helps to break up a cold. For prompt relief from chest cold, croup and bronchitis, tonsilitis, neuralgia, rheumatism and headache, pains in joints and chilblains rub on Musterole. Keep a jar handy.

To Mothers: Musterole is also made in milder form for babies and small children. Ask for Children's Musterole.

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BETTER THAN A MUSTARD PLASTER

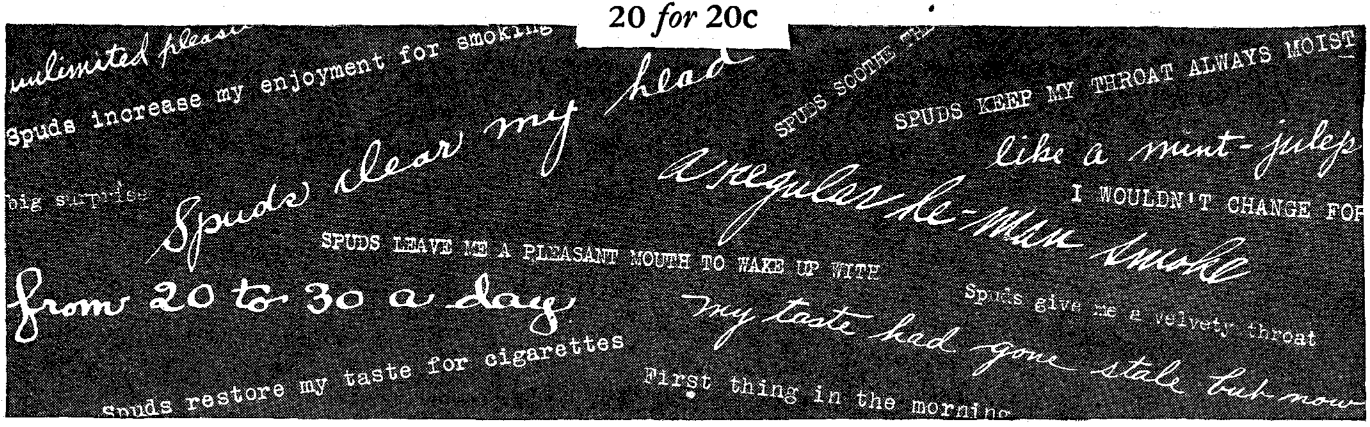
The Winners of $4000 Cash Prizes

for the Best Letters on

SPUD

MENTHOL COOLED CIGARETTES

20 *for* 20c


unlimited pleas
Spuds increase my enjoyment for smoking
Spuds clear my head
SPUDS SOOTHE THE
SPUDS KEEP MY THROAT ALWAYS MOIST
like a mint-julep
big surprise
a regular he-man smoke
I WOULDN'T CHANGE FOR
SPUDS LEAVE ME A PLEASANT MOUTH TO WAKE UP WITH
from 20 to 30 a day
Spuds give me a velvety throat
My taste had gone stale but now
Spuds restore my taste for cigarettes
First thing in the morning

THE contest for the best letters on Spud Cigarettes has been decided. Some 20,000 people took time to write us their experiences and opinions and inquiries concerning this menthol-cooled smoke.

Contrasting Replies

Veteran pipe smokers told of using Spud as a "change-off". Cowboys described how Spud eased throats parched by alkali dust.

Dyed-in-the-wool cigarette enthusiasts wrote of switching to Spud, because their last cigarette of a two-pack Spud day tasted as good as their first.... Tobacco connoisseurs lauded Spud's blend as epicurean. Novice smokers were grateful for Spud's gentleness.

Many New Slants

Throat specialists, in considerable number, cited Spud's conquests over "leukaplakia" (!) the raw, fiery throat. Innumerable Spud rooters turned up among actors and lecturers, whose throats are their bread-and-butter.

Thousands and thousands told of meeting Spud in the midst of a temporary cold.... and continuing the friendship when the cold was gone. There were also the puzzled experiences of those who first doubted Spud .... who went through a whole Spud pack before being convinced.

One Great Similarity

Whatever its special experience, nearly every letter indicated public taste is getting a new development in cigarette smoking ... a better tobacco enjoyment, unhampered in every way.

To all who wrote us letters, the Axton-Fisher Tobacco Company extends its thanks. The company will always keep the names of these 20,000 as Spud's special friends.

A Contest Difficult to Judge

Competition was keen.... Selecting the best from among so many good contributions was difficult. The judges were: Frederick C. Kendall, Editor of "Advertising and Selling"; John Lee Mahin, Vice President, Street Railways Advertising Company, Floyd W. Parsons, Feature Writer, Editorial Director and special writer for The Saturday Evening Post. By careful comparison and elimination they awarded the first nineteen prizes as follows:

Kenneth R. Close, Miami, Fla. Pastor, Coral Gables Methodist Church	$1,000
Martha Petelle, Maranacook, Me. Actress, N. Y. Address: 53 Charles Street	$500
David Thompson, Greenwich, Conn., Master in English.	$250
Paul A. Fitzgerald, 916 Delaware Ave., Wilmington, Del., Doctor	$100
Mrs. Alfred Bailey, Berkeley, Cal.	$50
William T. Gray, Brooklyn, N. Y.	$50
Col. Edward R. Stone, U. S. A., Fort Omaha, Neb.	$50
W. R. Brown, Wyoming, New York	$50
Dr. Herbert L. Herschensohn, Milwaukee, Wis.	$50
L. M. Mitchum, Kansas City, Missouri	$20
Rev. Howard D. Grant, Meyersdale, Penn.	$20
Jules Moret, Kennewick, Washington	$20
Mrs. J. Talbott, Seattle, Washington	$20
Elsie Marie Hauger, Philadelphia, Penn.	$20
Lt. Walter S. Ginn, U. S. N.	$20
Arthur Berggren, Stillwater, Minnesota	$20
Helen Goode Bragg, Walla Walla, Wash.	$20
Kenneth B. Murray, Sturgis, Michigan	$20
Edward F. Lane, New Britain, Connecticut	$20

Cheques, ranging from $10 down to $2, were also mailed the remaining 540 prize winners. For complete list of prize winners address

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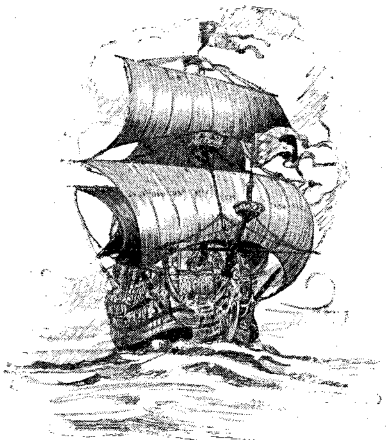

. . . Ayer Itan . . .

latex . . .

Penang . . . stretches of yellow sand and rocky boulders . . . coves rimmed with cocoanut palms . . . and inland the terraced temple of Ayer Itan with pools of tortoise and goldfish . . . the Snake Temple . . . from the heights glimpse foaming cascades . . . flaming hibiscus bushes . . . great meadows and rubber plantations . . . and yonder, clad in crimson turban and loin cloth, a Tamil coolie pouring latex into pails . . . Just *one* of the places on the cruise

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Literature and full particulars on application to your local agent or

CUNARD LINE

or

THOS. COOK & SON

MOTORING AND AVIATION
Continued

overhead was tempting fate too much. He dodged back into a thick bank of fog. When he nosed out on the other side the British were out of sight. Hours of search failed to locate them in the mist and the Zeppelin was ordered back to her base.

Confidence that they could take their ship through any kind of weather, as they would a surface vessel, betrayed Commander Zachary Lansdowne and his brother officers of our Navy *Shenandoah* on the night of September 3, 1925, Mr. Mingos remarks, coming to an air tragedy all will recall. Reading on:

The *Shenandoah* was bound toward the Middle West. Like a ship at sea she was plying through the night over the Ohio River, lights glowing, mechanics busy with their purring motors, those in the control car picking up occasional landmarks on the surface 1,800 feet below. Suddenly the big craft hesitated. A blast of wind had smacked her bow like a huge hand pushed up out of the west. The officers, among them a trained meteorologist, peered into the darkness: what were they to expect? They discust the signs. All hands remained alert. The wind became a series of angry gusts, but the ship maintained an even keel and nosed against it persistently.

From that point on the *Shenandoah* struggled with the wind in a battle that reached this climax:

The big airship lunged down a sheer half-mile. Ready hands freed the ballast and it slipt out through open hatches in the keel. The wind again picked up the ship and the 675 feet of metal girders and fabric, with forty-one men distributed here and there throughout the entire length, rose up at a steep angle, like a ball tossed in the air. From the interior of the hull came an ominous cracking noise like breaking match sticks. Several men in the control car, which was swung about 10 feet under the hull and well forward, heard the warning sounds. Those not busy at the controls climbed up the ladder to investigate. Two were on the ladder when the *Shenandoah* parted amidships.

Two struts had held the control car suspended below the keel. The rear strut snapt off as the framework broke. About 150 feet of the nose swung free and the control car for a moment was carried with it, dangling at the end of the fore strut. Then it was wrenched off and sent plunging like a stone from a mile high with Commander Lansdowne and twelve others trapt inside. Another officer happened to be where the break in the hull occurred, and he was dropt out, spinning helplessly.

The forward part, relieved of the control car sprang up hundreds of feet with excess buoyancy. Those inside peered out in the half light of dawn. One man was clinging to the ladder. He was pulled to safety. Another was found with his arms and legs wrapt about a girder that flapped perilously outside. His back was toward his comrades. Their bit of wreckage was now careening wildly on the heels of the wind, but they procured a rope and after many attempts got an end of it over their comrade's shoulder: he grabbed it and they pulled him inside.

Directed by Commander C. E. Rosendahl, now captain of the *Los Angeles*, they

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(Signed)
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A. E. PARKER, City Manager.

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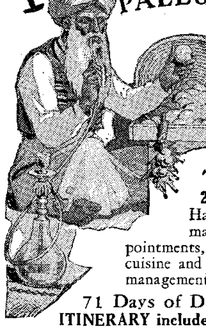

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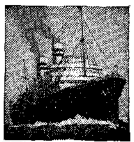

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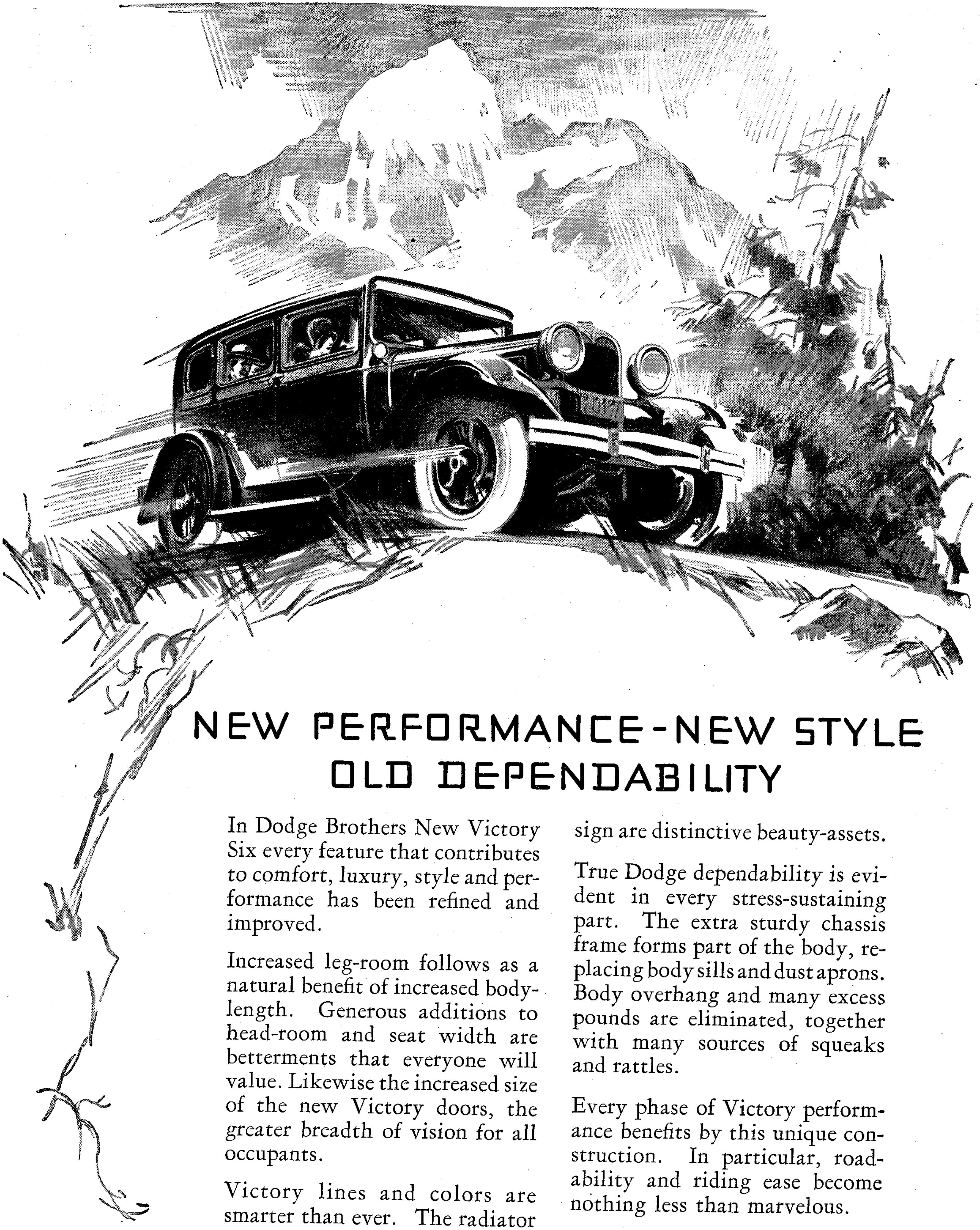

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MOTORING AND AVIATION
Continued

separated into two parties and crept down the keel toward opposite ends. This steadied the derelict and enabled them to free the gas gradually so they could maneuver as if in a free balloon—on a twelve miles' ride, the last moments of which bumped them against tree-tops, fences, and farm buildings, finally to safety.

Meanwhile, the middle of the ship with two engine gondolas had broken away from the aft section. It dropt straight, but by casting out everything of weight, those aboard broke the force of their fall and were tumbled out on the ground with only minor injuries. The tail-piece was the biggest part, about 500 feet long and tapering from the middle, which was as thick as a five-story building. It fell heavily and landed with a crash nearly a half-mile away, broke into pieces and scattered the occupants on the surface. But the control car claimed all the victims except the officer who had been thrown out amidships.

But all dirigible history has not been as tragic. For example:

The British *R-34*, on her flight across the Atlantic in 1919, remained up 108 hours on the westward trip of 3,130 miles, while her return trip with favorable winds required only 75 hours. The *Dixmude* in September, 1923, flew a circular course of about 4,500 miles, in 118 hours.

LEAPING FOR A WORLD'S RECORD WITH A PARACHUTE

INTO the air he went, 5,100 feet above the ground, and hurtled, head over heels, downward—one hundred, a thousand two thousand, three thousand, four thousand, forty-four hundred feet. Then, seven hundred feet from the earth, he jerked at a ring which hung over his shoulder, connecting with a pack on his back. In a split second a little pilot parachute had unfolded and dragged a large one from its pack. Caught by the uprushing air, the big umbrella opened and abruptly checked the terrific dive. Harold Whitby, a machinist's mate who had leaped from the wing of an airplane to give a final and absolute test to certain well-established theories about parachutes, was lowered gently the few remaining hundreds of feet to the ground at Pensacola, Florida, none the worse for his hazardous experiment. His was the longest drop with an unopened parachute on record, we are told by William M. Laas in the New York *World* Magazine. Reading on, we learn:

Whitby's delayed drop is a conclusive confirmation of previous experiments with dummies. It is now known that after dropping 1,200 feet a man with unopened parachute no longer obeys the laws of freely falling bodies, but continues downward at a constant velocity.

A 180-pound man, tumbling through space, falls sixteen feet the first second, and thereafter, if there were no air resistance, his velocity would increase thirty-two feet each second. But the air cushions his fall considerably, so that at the end of the eleventh second he has fallen 1,200 feet, and is dropping at the rate of 173 feet per second. By that time air resistance completely counterbalances the acceleration of gravity, and his speed remains constant. Dropping in a vacuum, his speed would have increased in eleven seconds to 336 feet per second, and thirty-two feet more every additional second.

His downward velocity of 173 feet per second is equivalent to almost two miles a minute, or 118 miles per hour. At that rate a 180-pound body develops a kinetic energy of 2,693,000 foot-pounds, which is enough to drive a one-ton automobile at fifty miles an hour, or to lift that same car a quarter-mile in the air. The opening of the parachute abruptly slows up the fall to about fifteen feet per second—the speed of a skyscraper elevator—within twenty feet.

To resist suddenly the downward force of a falling body takes enormous strength. Parachute fabric is tested for a stretching resistance of forty-five pounds to the square inch, and the shroud lines can stand a 400-pound tension. This is the margin of safety upon which the aeronaut must depend when his flying-machine gets into difficulties—the only thread which holds him to life. And in its modern form the parachute is a marvelous device—large enough and strong enough to stop a body falling at 200 miles an hour, yet so made that it can be folded into a small knapsack weighing only eighteen pounds.

The Army Air Service type of parachute, which costs about $300, is made entirely of Japanese Habutai silk, it is explained, as we read on:

The umbrella portion, or sail, has a diameter of from eighteen to twenty-four feet. It is ribless, for the weight of the jumper on the lines attached to its border holds the sail in the rounded shape which offers most resistance to the air. There are usually twenty-four of these shroud lines, each about sixteen feet long, connecting the sail with the harness of the jumper. They are also of silk, which is used in 'chute making, because it combines great strength with lightness of weight.

The fabric is criss-crossed with seams. A seam runs from each of the twenty-four shroud-lines at the border to the center, forming twenty-four gores, or triangular strips of cloth. Each of the gores in turn is made up of four separate pieces, making ninety-six pieces of cloth in all. Thus, if any part of the sail should break, the seams would keep the rip from spreading to the rest of the cloth, and the parachute would still offer enough resistance to the air to carry its wearer in safety.

When in use, the shroud-lines are connected to the belt of the 'chute jumper's harness. This is of canvas webbing, and passes over the shoulders and between the legs. The canvas pack containing the 'chute is suspended from the shoulders, so that the wearer can sit on it while in the plane. The harness is held in place by three hooks, which can be instantly released after reaching the ground.

One of the most important features in the construction of a parachute is the folding. This makes the device practicable for everyday use, but a slight mistake in folding can cost the wearer his life. Consequently great care is taken to prevent tangling, and an unused parachute is refolded every few months.

The pack has several pockets. In one of them is folded the small pilot parachute and in the others the shroud-lines. The

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MOTORING AND AVIATION
Continued

main sail of the 'chute is pleated accordion fashion in the body of the pack, with the shroud-lines on the sides and the pilot parachute on top. The rip-cord is hung over the wearer's shoulder. It terminates in a large metal ring, which is placed in a front pocket of the harness.

To release the parachute, the rip-cord is jerked vigorously. This pulls out from two flaps of the pack pins which fasten the pilot parachute. Then rubber bands throw back the flaps, and the pilot 'chute is ejected from the envelop. Catching the rushing air, it opens and drags the large sail after it. When the parachute has opened, the pilot 'chute collapses on top of it for want of air. The entire process takes but one and four-fifths seconds.

The sensation of parachuting is described as being rather pleasant.

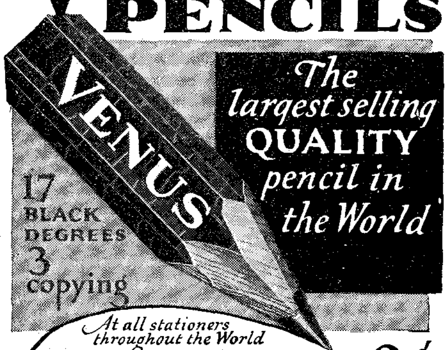
To a beginner, the hardest part is the jump, for most of us are instinctively afraid of great heights, and no one relishes the prospect of trusting one's self to a frail-looking piece of silk.

After the jump has been accomplished, it is equally hard to refrain from pulling the rip-cord too soon. One second is time enough to get clear of a plane moving in a straight line, but if the plane has been abandoned and is veering crazily about its late passenger, the jumper can take no chances of fouling his 'chute in taking off.

The first few seconds are the hardest, Mr. Laas continues. Quoting further:

> To the jumper hurtling head over heels through the air, earth and sky merge into a gray, dizzily swirling mass, while the air whistles past him in a terrifying fashion. Then he pulls frantically at the rip-cord.
>
> For a blood-freezing moment it seems to him that he and his parachute have parted company. Then there is a terrific jerk at his harness. He is right side up once more, suspended as if in a swing, floating serenely downward. There is no more pleasant moment in the life of a parachute jumper than the time he reaches up with a trembling hand and finds the shroud lines taut and resistant.
>
> The first jerk of the opening 'chute is not as bad as one might imagine. The harness keeps the shock distributed evenly over the body, so that there is little danger of wrenching a shoulder out of place. Opening the 'chute can be delayed for thousands of feet, for it is now known that the old notion about a falling man losing consciousness is wrong. The most dangerous part of the jump is landing.
>
> Hitting the ground with the parachute is like being in a fast elevator that strikes the bottom without slackening speed. The landing parachutist makes no attempt to stand up, but lets his legs buckle under him as if he had just made a ten-foot jump. To prevent dragging he pulls at the lines nearest the ground, and in a high wind he can get rid of his harness in a few moments. The parachute may be guided while in the air by pulling on the lines facing the desired direction, which moves it about ten feet for every hundred feet of descent.
>
> The parachute is by no means so new a thing as most people think. It was used before the first balloonist left the ground. A French historian recounts that an acrobat in Siam thrilled the royal court with parachute jumps more than 250 years ago. In 1783 a French inventor named Lenormand constructed an umbrella-like device

VENUS PENCILS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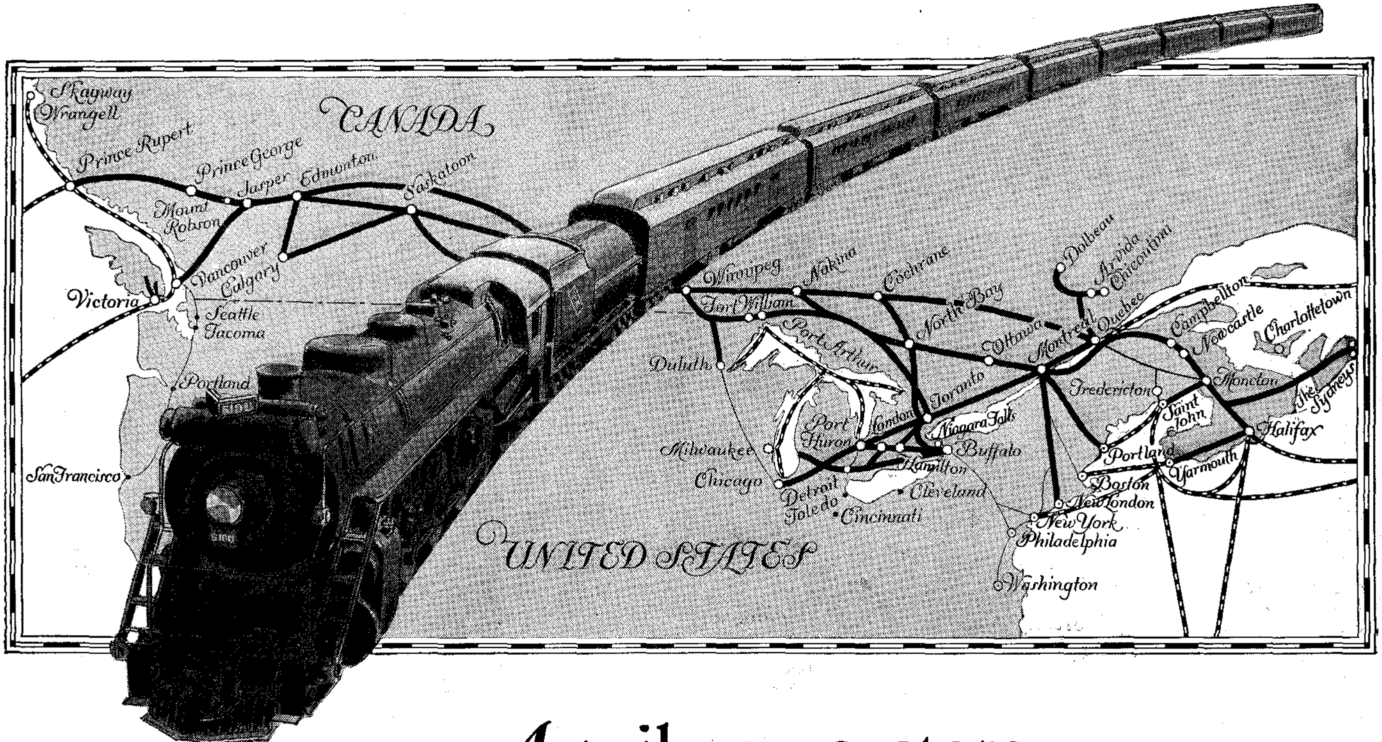
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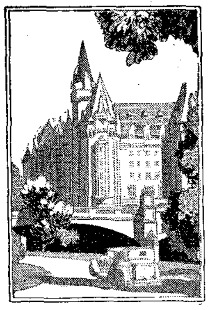

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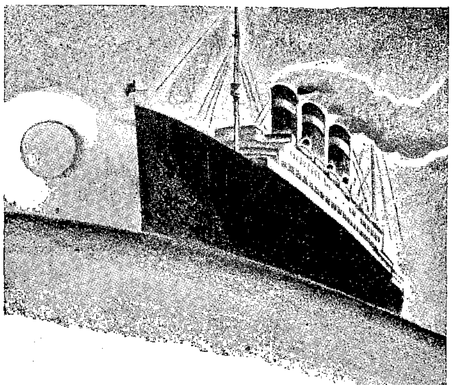

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MOTORING AND AVIATION
Continued

for escaping from fires. Another Frenchman, Garnerin, was the first to use a parachute for descending from a balloon, back in 1797.

These early designs were simply large, ribbed umbrellas, and they oscillated so violently that landing was extremely dangerous. In 1837 an Englishman named Cocking made a parachute which would not oscillate, by turning the dome of the umbrella upside down. On its first trial, however, the contraption collapsed like an umbrella turned inside out, and Cocking was killed.

The present form of the parachute was developed during the World War. Lieut. Harold Harris, of the United States Army, made the first emergency jump from a plane. Parachute jumps are now of every-day occurrence, altho numerous serious accidents have resulted. Those who owe their lives to a parachute automatically become members of the "Caterpillar Club," a mythical organization which now numbers nearly 100 men and women. One of its best-known members is Col. Charles A. Lindbergh, who has been forced to resort to a 'chute on four different occasions.

MAKING THE MOTORIST "AIR-MINDED"

"AUTOS don't run on air," is a statement that may have to be corrected one of these days, in the opinion of Frederic C. Russell, exprest in a copyrighted article for the Russell Service, and quoted from the Springfield Sunday *Union and Republican*. Mr. Russell reviews briefly the increasing part which air, "free and plentiful," plays in making motoring a safer and more convenient mode of travel. "A new view now held," he tells us, "is that air is destined to play a major part in much of the newer mechanical design of cars." Once used in motoring mainly for inflating tires, says Mr. Russell:

> Air has come to figure prominently in the finishing, washing and greasing of cars. It is being used to actuate brakes, operate jacks, "wash" brakes, and for various other operations. According to predictions, steering soon will be accomplished largely with the aid of air.
>
> At the present moment air plays a greater rôle in the modern car than the average motorist suspects. It is found in several shock absorbers, and in one of the newest spring-control devices it works in conjunction with fluid. Air is prominent as a means of actuating brakes and, while in the booster type of brake attachment, vacuum seems to be the basis for power, it is air at atmospheric pressure that does the work. The windshield wiper and the fuel feed are operated by air.
>
> So important has air become in the functioning of the automobile that engineers are speculating as to additional possibilities. Some fantastic schemes are being proposed, and not a few of them seem feasible.
>
> Recently at a meeting of leading engineers there was demonstrated a car equipped with a hydraulic steering gear. Power steering has been developed by one

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of the large steel companies. Many believe it is only a step from this to steering by air power.

The importance of air in the operation of the automobile is little understood. The average motorist thinks that his windshield wiper works entirely by suction, but if he were to prevent air from entering the cylinder of the wiper, the device would stop.

If the air vent in the cap of the rear gasoline tank is plugged, gasoline will not flow to the vacuum tank, and the engine will soon stall for want of fuel. The fuel system is aided by engine vacuum, but it will not operate without air-pressure.

Air bumpers are further applications of this useful substance. Air cushions have come in accessories, and it is predicted that all car cushions will, in the near future, be inflated the same as tires.

Already an air-pressure generating device, the supercharger, has demonstrated its value on American and European speedways. Superchargers, while varied in design and construction, are nothing more or less than air pumps of the blower type. Just as the pneumatic tire revolutionized riding so the "air-fed" engine is expected to revolutionize performance.

With the future automobile destined to carry a compress-air tank for supplying air to operate the brakes, the process of cranking the engine by air looms as a certainty, thus doing away with the conventional starter, starter drive, and the many troubles that go with these devices.

Air is being featured as a mechanical slave in well-equipped service stations, comments the writer as he proceeds:

> No more does the progressive mechanic crawl under the car or go down into a pit when he wants to work on the chassis. He merely starts the air-pumping mechanism going, and, when the car has been lifted to a convenient height, goes about his work without acting the contortionist.
>
> The modern way of doing things rules out the hand-operated grease gun. Air now takes the place of human effort and imparts to lubricants that driving force necessary to insure adequate greasing of stubborn shackles and spring bolts. The majority of spring experts use penetrating oil under air-pressure to lubricate between the spring leaves.
>
> Permanent jacks of the sort that remain attached to the car, and which are ready for use on a moment's notice, now are air-operated. A pump, similar to the kind motorists used to carry to inflate their own tires, operates from the engine and feeds to lines that carry the compress air to jacks. The car is off the ground for tire change or brake adjustment in less time than it takes to tell it.
>
> The importance of air in the lacquer finishing and refinishing of automobile bodies is scarcely appreciated by the average car owner. Without the convenience of spraying these pyroxylin finishes nothing approximating the smooth, attractive bodies of present-day cars could be expected.
>
> Air is attracting greater attention as a cooling medium, as is best evidenced by noticeably deeper radiator cores. The automobile fan, long regarded as a necessary nuisance in engine design, is being elaborated upon even in cars where water is used as an intermediary cooling medium. In one of the popular makes a shroud encloses the fan and directs the air stream straight against the engine block and head so that there will be none wasted.

When pearls lose lustre
· · beware of
✣ Acid Perspiration

*and what it may mean . . .

Acidosis in its many forms, not only causes low vitality but seems to throw open the body to various common ailments, often creating conditions personally disagreeable to the sufferer. Among them, *acid perspiration.*

This form of Acidosis produces "sweat-burn" under arms and on the feet and usually carries with it an objectionable odor. Silk hose and undergarment manufacturers state that "sour sweat" causes the rapid deterioration of good silk. It is also scientifically known that pearls lose their lustre when worn by people suffering with acid perspiration. These danger signals should be heeded.

Acidosis is traceable to faulty diet. *Eat less* acid-forming foods such as meat, fish, eggs, bread and cereals, and *eat more* alkaline-reaction oranges and other fresh fruits, fresh vegetables and milk. If you follow this advice from a high medical authority you will preserve the body's necessary acid-alkaline balance. Otherwise Acidosis is certain.

Fresh California Orange Juice or Lemon Juice with water (sweetened or unsweetened)—and plenty of it—will not only correct the average Acidosis condition but is a safeguard against the malady. Oranges, like lemons, while acid to the taste, are alkaline in their reaction and serve to balance unwisely eaten foods. Three glasses each day of either fresh Orange or fresh Lemon Juice will not only give you protection but naturally better your entire system through body-building vitamins and mineral salts.

Any family can readily use simple but effective anti-acidosis measures. Delicious California Orange Juice or Lemonade in liberal quantities daily; orange salads (with other fresh fruits if desired); orange desserts.

If you are half well most of the time, "loggy," tired long before the day is done, take the advice of Medical Science. Drink fresh Orange Juice or Lemon Juice. If your case is of long standing consult a physician.

California Sunkist Oranges have richest juice and finest flavor. They are uniform in quality and entirely dependable. Look for the trade-mark "Sunkist" on skin and wrapper.

You should know what Acidosis means. It is intimately and clearly discussed in "Telling Fortunes with Foods," a booklet approved by an eminent diet authority. We will send it free if you mark and mail the coupon. This booklet contains a chapter on Safe Reducing as well as normal and anti-acidosis diets and gives a list of alkaline-reaction and acid-forming foods. Send the coupon for your copy immediately.

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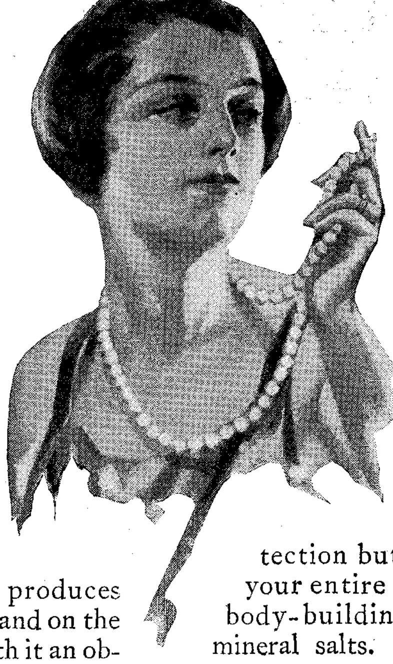

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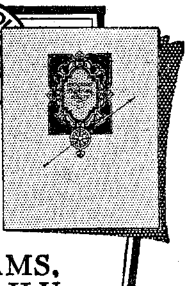

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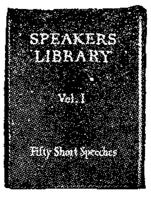

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BUILDING A PANAMA CANAL IN THE MISSISSIPPI VALLEY

GREATER business development is coming to the Mississippi Valley in the next ten years than it has ever known before, we are told, because of the huge program of flood-protection work which the Federal Government is now undertaking under the Jones-Reid Act. It is a three-hundred-million-dollar project that is getting under way in the heart of the country, and is certain to stimulate industrial activity in various lines, not only along the Mississippi, but also in other parts of the country, declares E. Kenneth Burger in *The Magazine of Wall Street.* New territory and new opportunity for growth are being created, he says, and the result is likely to be seen in increased earnings of many corporations and in "favorable repercussions throughout the business life of the nation." Remarking that the work will be under the direction of the Engineers of the War Department, Mr. Burger continues:

> Under the present plan, work on which has already started, flood-heights will be lowered by means of diversion channels and flood-ways and special protection afforded to such cities as Cairo, Ill., New Orleans, and many other important towns and centers of population. The entire levee system will be strengthened by rebuilding, raising the heights, and even in some places relocating, or moving back present levees for considerable distances where the river was unduly constricted. Upon completion of the relief plan, safe guidance will be provided for the river under conditions of the greatest predictable flood.
>
> Some idea of the magnitude of the project may be gathered from the fact that the portion of the river course to be given additional protection extends from Cape Girardeau, Missouri, about 125 miles south of the city of St. Louis, all the way to the Gulf. This is the natural alluvial valley of the Mississippi. It is more than 600 miles in length. Here the river attains its greatest size and force, and here its unrestricted flood course would be a path almost fifty miles wide throughout. It is estimated that the protective program will take fully ten years to complete; and will cost, according to preliminary figures, $318,000,000. It is one of the largest engineering feats ever undertaken by the Government, being comparable in cost to the building of the Panama Canal.

What will all this tremendous work and expenditure accomplish? To that question the same writer replies:

> In the first place it will provide permanent protection to 20,550 square miles of some of the most fertile and productive land in the United States. In addition it will afford partial protection for 9,450 square miles, more than six thousand of which is swamp and timber land not affected by flood in any case.
>
> Floods so far have never broken through the levees at such points as to demolish a city. The threat of such a calamity was, however, sufficiently apparent during the height of the 1927 flood to bring realization of what it might mean. The great loss of life and property which could take place in such a city as New Orleans is itself justification for the measures which are being taken to make this and other cities free from the hazard of future ravages of the river. With possible floods held within normal confines, great farm lands given over to the production of cotton, sugar-cane, rice, and tobacco can be worked with some feeling of security. Mississippi Valley farmers need no longer watch with apprehension the rainfall in thirty-one different States, which drain in whole or in part into this great mid-country artery.

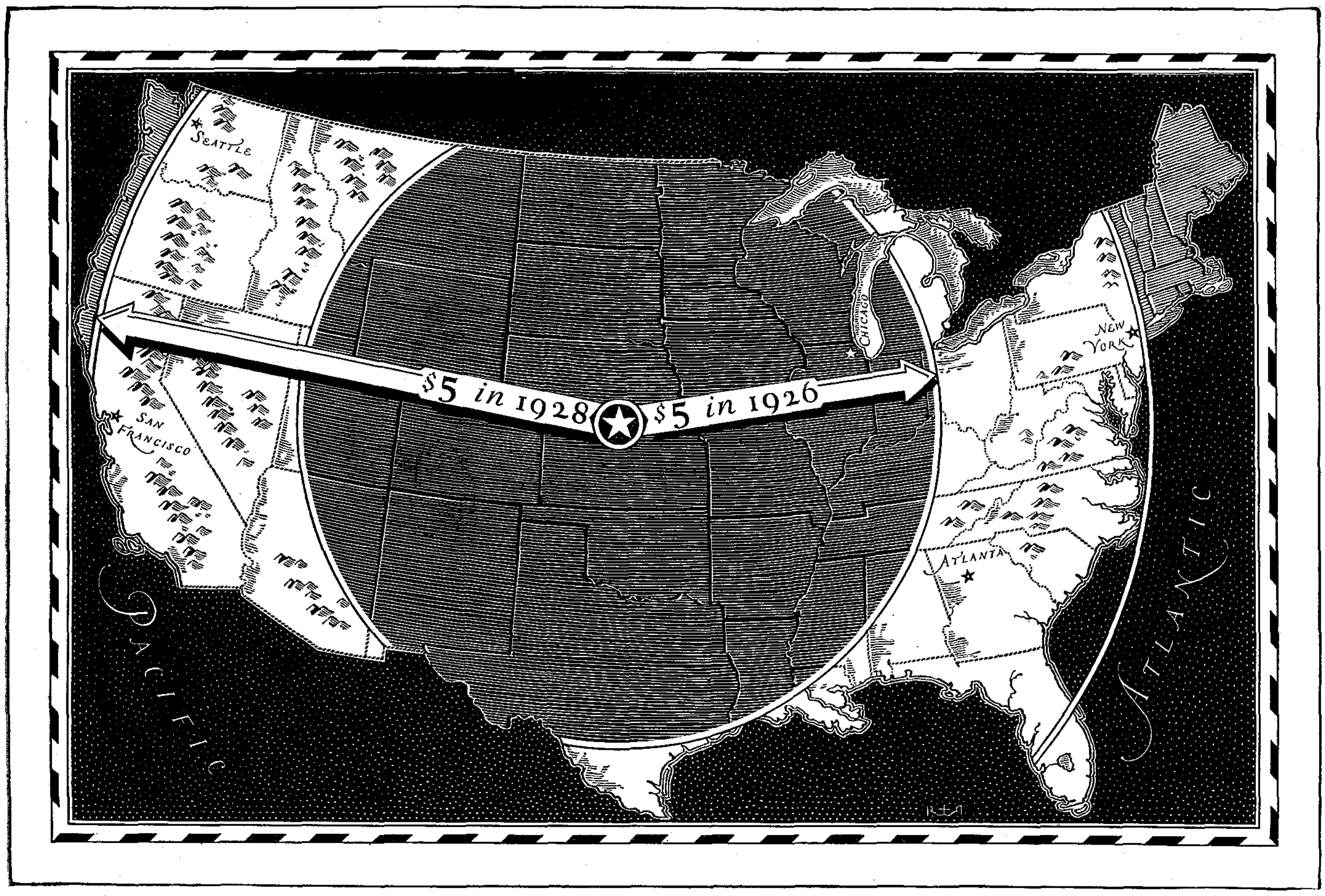
The valley can no longer be considered purely agricultural, says Mr. Burger, and as soon as its industries can count on physical safety, they will develop, for already—

> Its lumber mills are among the most important in the South; steel mills are established, as are sugar refineries, and, in the southern portion, several big petroleum plants. With flood protection to be afforded, and the natural advantages offered, this section may shortly be expected to witness a great deal more of industrial awakening. Certainly, if industries can be located near enough to the river to enjoy the advantages of its commerce without fear of periodic loss, if not complete devastation, it should hasten that day. What a boom to the great hardwood lumber mills of the valley, for instance, to be free from shut-downs in the busiest season, as happened last year!
>
> Railroad and communication lines, which are of increasing importance with the rapid development taking place all over the South, can be maintained at less cost and with more safety with reduced flood hazard. And, finally, the lines of several million people living and working in the alluvial valley of the Mississippi will be safeguarded.
>
> In addition, the conduct of an engineering project of the magnitude outlined is likely to have a favorable effect on the country surrounding the scene of operations. Railroads will, perforce, bring in more freight in the shape of raw materials and supplies. Southern lumber mills will face a broader demand. The local labor markets will be stimulated, with employment over considerable periods afforded for large numbers of skilled and unskilled labor. Already 15,000 men are reported by one authority as engaged on the project. Retail trade will be benefited, more money will be in circulation, and the entire valley will be given a start toward the new day of development that is bound to follow its protection against inundation.

There is much more to the picture, however, than the local benefits, the *Magazine of Wall Street* contributor assures us, since the expenditure probably of $325,000,000 by Congress must produce far-reaching effects throughout the business structure of the nation. We read further:

> Consider the question of equipment essential to the execution of such a job.

Now only $5 to telephone half way Across the Continent



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A Nashville lumber company relies on long distance calls for collecting slow accounts.

A Portland, Oregon, fruit company figures its sales overhead, where the telephone is used, at 2%. Where personal solicitation only is used, 7%.

A Chicago miller, by a telephone call to Philadelphia, costing $3.10, sold 60 carloads of flour for more than $100,000. Why not let Long Distance help your business? What distant places could you profitably reach by telephone, now? . . . . . . *Number, please?*

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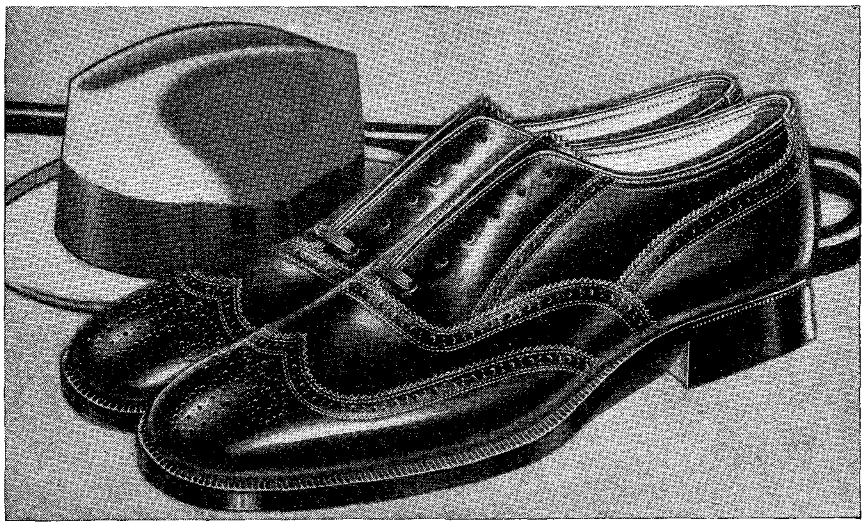

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INVESTMENTS AND FINANCE
Continued

Picture the thousands of cubic yards of earth and fill to be excavated by steam-shovels and transported by trucks and dump-cars. Think of the work to be done by tractors, heavy-duty hauling engines, pumps, pile-drivers, conveyors, and even hand tools. These essentials are bound to make for sizable orders for machine and equipment builders, truck and tractor manufacturers. One or two of the manufacturers of construction machinery have developed huge devices called "levee builders," which have already been found efficient and adaptable to the work in hand, and seem certain of wide usage.

Makers of farm implements may be expected to profit by orders for picks, shovels, brush hooks, and tractors. Road-building machinery will be in demand, chain, rope and steel cable will be needed in quantity. Thousands of miles of galvanized steel wire will be necessary in binding revetments of one type, while steel wire-mesh and thousands of barrels of cement will enter into the concrete slab type. Structural steel will find large demand, and a great deal of lumber of all sizes will go into both temporary and permanent construction. Thus, in addition to the machine and equipment manufacturers, it is apparent that many units of the steel industry can be expected to share in the order list, as well as cement makers, lumber mills, brick makers and others. Even the apparently far-removed paint manufacturers and the producers of explosives and blasting equipment should benefit by the increased order volume.

RAILROAD "DOLLAR DAYS"

AN imitation of what chain stores and department stores and other merchandisers do in the way of stimulating business has just appeared in the transportation field. This innovation consists of the "railroad 'dollar days,' which the Boston and Maine conducted over the Columbus Day week-end." This won substantial support from the New England public, for when the returns were compiled it was found that 4,800 persons made "dollar-day" trips, which was twice as many as the railroad officials had anticipated. Further information is given in a statement sent to the press by Boston and Maine passenger-traffic officials:

> Conceived as a means of stimulating rail travel and of meeting private automobile competition, the "dollar days" constituted the largest single excursion in the history of the Boston and Maine. It was unique in that excursionists selected their own destination with a round-trip rate of only one dollar plus the one-way fare, regardless of destination.
>
> Analysis of the returns showed that "dollar-day" points of departure and destination covered virtually every station on the line. The effect was especially felt at the New North Station, where for the fiscal week including the "dollar days"—October 12, 13 and 14—ticket sales exceeded those of the corresponding week in 1927. This is noteworthy, in view of the continued decline in passenger riding, attributed to the automobile.

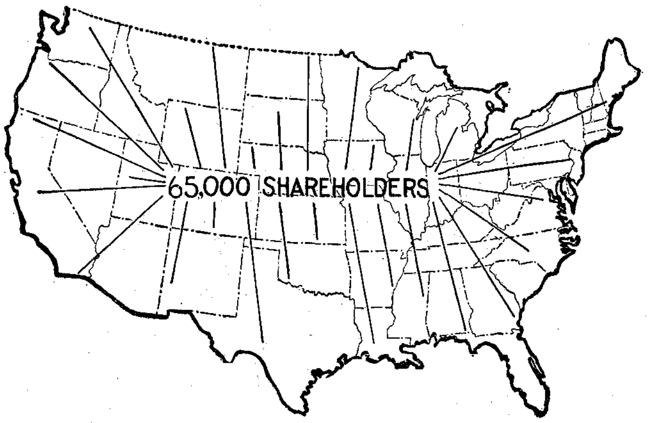
NO MORE SHAME IN THE MORTGAGE

ONCE upon a time the mortgage was a stain on the family honor—"Mortgages were never discust in public and their owners shuddered about them in private. The books and plays of fifty years ago reflected the horror with which the mortgage was regarded, and mortgagees were always villains who demanded the beautiful golden-haired daughter on the date of maturity or threatened to move the family heirlooms into the street." But, continues a statement made by the National Association of Real Estate Boards in an article in the New York *Sun*, "times have changed and the mortgage should not be looked on now as the first step toward the poorhouse, for mortgages are no longer held by heartless villains who foreclose on the stroke of twelve o'clock and evict the family into a snow-storm." It was pointed out that a mortgage is simply "a document pledging the security of a property, given by its owner to a person or organization advancing money to the owner." Most first mortgages are undertaken in connection with buying or building a home, and sometimes the mortgage is used by a person with a paid-for home in order to raise funds for some special purpose. As we read further:

> Very few businesses to-day can go very far without credit. The man who can command credit to-day can command the modern world, and the man who can secure a mortgage is a man who can secure credit. The very fact that he can obtain a mortgage means that he has something behind him.
>
> For a prospective home buyer or builder a mortgage is a means of acquiring a home that could not be secured in any other way unless the prospective buyer or builder could pay all cash, and statistics show that few homes are purchased by complete cash payments. For the man with a little money to invest the mortgage is a good place in which to put his savings. First-mortgage loans will bring a return of from 5 to 7 per cent., and indeed, so popular has become this form of investment that in many parts of the country to-day fractional mortgages or parts of large mortgages can be bought in $100 units, thereby making it possible for the small investor to enter this field.
>
> The organizations that deal now in first-mortgage loans, include mortgage companies, banks, trust companies and building and loan associations. As a result of the passage of the recent McFadden act, national banks are permitted now to lend mortgage funds. Those institutions are a far cry from the dingy one-room offices where some honest and a good many dishonest money-lenders drew up foreclosures a hundred years ago.
>
> Foreclosures are unbelievably few compared to the vast sums loaned in mortgages. The interests lending money in this field rely on what is known as good-will for their very existence. Competition is keen, there is an adequate flow of capital for mortgage purposes, and the mortgage interests can not secure public good-will by foreclosing on the stroke of twelve o'clock. Therefore, every consideration is given to mortgage borrowers, and foreclosure is resorted to only when all else fails.

Associated System

Founded in 1852



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There are Associated shareholders in every state in the Union and in all the Canadian provinces except three. In 26 states there are 100 or more shareholders each, in 9 states 1,000 or more each, and in one state over 27,000.

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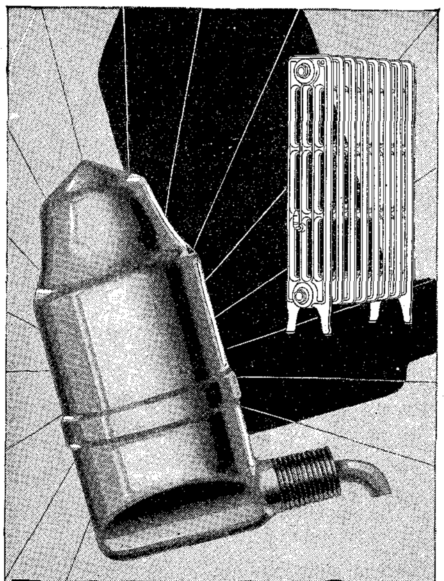

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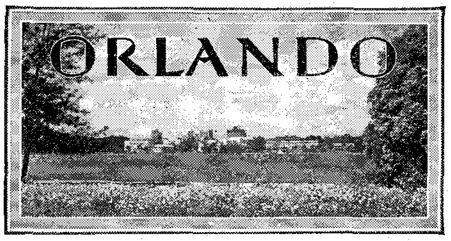

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CURRENT EVENTS

FOREIGN

October 25.—Professor Nicolle, director of the Pasteur Institute of Tunis, is winner of the 1928 Nobel Prize for Medicine, for his research work in connection with spotted typhus fever, it is announced.

October 26.—In an address to the tenth anniversary meeting of the League of Nations Union, in London, Prime Minister Baldwin says that Great Britain has no intention to build a navy in competition with the United States, and expresses his pleasure that the Kellogg anti-war pact has been signed.

Thirty-six people are killed and more than fifty injured in a head-on collision of the Simplon Express, famous international train, and a local express near Slatina, Roumania.

October 27.—Premier Mussolini burns receipts for 140,000,000 lire ($7,000,000) worth of lictorial bonds, which Italian subscribers had voluntarily given to the nation to help reduce the public debt.

October 28.—In an address to 700 mayors of Normandy at Caen, Premier Poincaré reiterates that all France wants from Germany is enough to pay her debts and reconstruction costs.

DOMESTIC

October 25.—A new record of twenty-four hours, fifty-one minutes for a non-stop flight from the Atlantic to the Pacific coast is made by the Lockheed-Vega monoplane *Yankee Doodle*, piloted by Capt. C. D. B. Collyer, and carrying its owner, Harry Tucker of Los Angeles.

The Rev. Reuben Archer Torrey, famous evangelist and one-time associate of Dwight L. Moody, dies at his home in Asheville, North Carolina. He was seventy-two.

October 26.—Fifty-six people are named as winners of the Carnegie Hero Fund medals, and pensions aggregating $4,320 annually, a sum of $19,200 for educational purposes, and more than $20,000 for other worthy purposes are awarded.

October 27.—The Roosevelt medals for distinguished service are awarded to Charles E. Hughes, former Secretary of State; Dr. Frank M. Chapman ornithologist, and Col. Charles A. Lindbergh.

October 28.—The Associated Press reports that 43,090,204 people have qualified to vote in the Presidential election, 13,998,712 more than the votes cast in 1924.

Red Cross officials announce that 1,836 people were killed and 1,870 injured in the recent great tropical hurricane in Florida.

October 29.—The *Graf Zeppelin*, under command of Dr. Hugo Eckener, starts on her return voyage from Lakehurst, New Jersey.

Haunted Headpiece.—The village choirboys, relates the London *Chronicle*, had decided to form a cricket team and appointed their junior member honorary secretary. In due course the youngster appealed to the curate for support. This is how the letter ended: "And we should be very pleased, sir, if you would allow us the use of the bats which the choirmen say you have in the belfry."—*Boston Transcript.*

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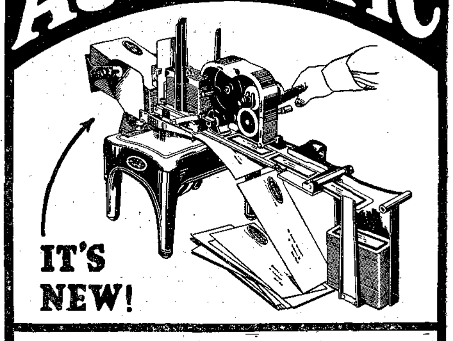

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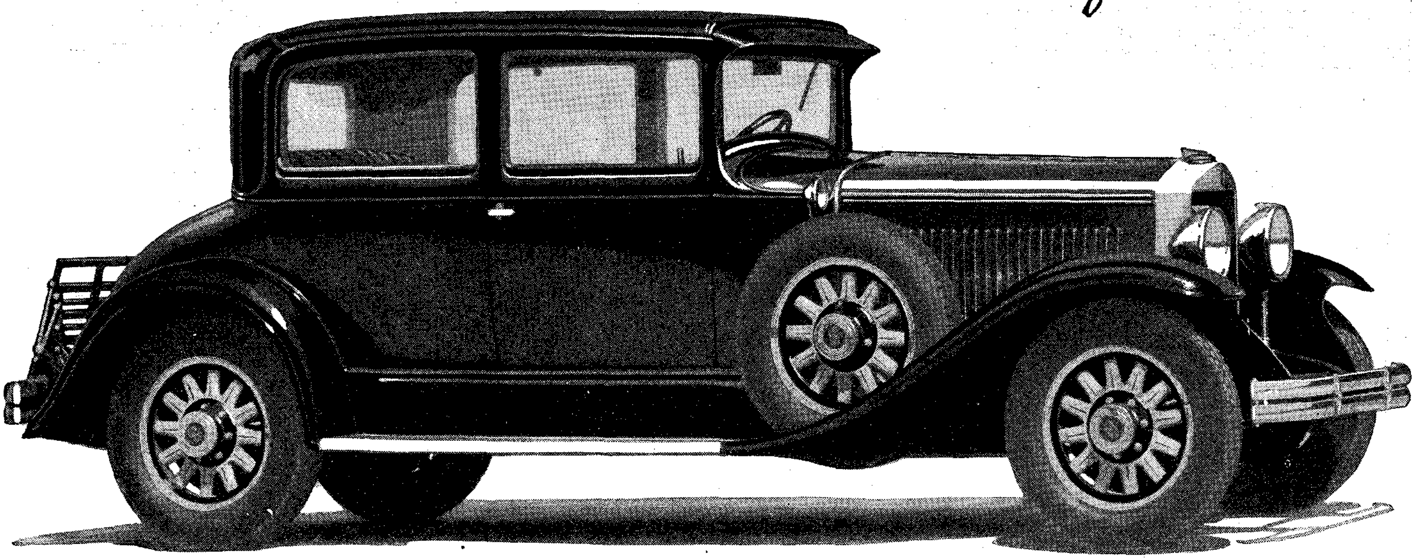

Five chassis—sixes and eights—ranging from $860 to $2485. Illustrated is Model 835, 5-passenger Coupe, with four-speed transmission (standard gear shift) and six natural wood wheels with side mountings, $2420. This body type, with same equipment, on 629 chassis at $2120. All prices f.o.b. Detroit.

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Tweet! Tweet!—Miss Miriel Clarke of Winfield, Kansas, has become the bird of Neal A. Sullivan.—*Charlotte (N. C.) paper.*

Reckless Rendezvous.—"Will you join me in a bowl of soup?"

"Do you think there'd be room for both of us?"—*Purple Parrot.*

Where's Mabel?—A $20,000 Bar, located on the best corner in Dallas, Texas. Doing a nice business. Priced right to right party.—*Ad in a Dallas paper.*

Touch Artist.—Janet—"Jack says he can read you like a book."

Olive—"Yes, and darn him, he wants to use the Braille system." — *Life.*

Wringing Wet.—

DRY LAW OFFENDERS
ALED BEFORE COURT

—*Lawrence (Mass.) paper.*

Towering Intellect.—Prof.—"In which of his battles was Alexander the Great killed?"

Frosh—"I think it was his last."—*Lyre.*

And It Wasn't a Chess Game.—Bismarck kicked off and after a few days Mobridge punted to Bismarck's 30-yard line as the quarter ended.—*Bismarck (N. D.) paper.*

Dream of the Condemned.—Daughter—"He says he thinks I'm the nicest girl in town. Shall I ask him to call?"

Mother—"No, dear, let him keep on thinking so."—*Belle Hop.*

Quaint Geography.—Bowing is an art in Japan. The lady crouched on the porch is using the proper sitting down bow. Quaint folks these Scandinavians.—*Caption in the Birmingham (Ala.) News.*

Why They Do It.—"Backs of Paris gowns are cut unusually low this season. Will women defy criticism and wear them?"

"Yes, women are showing more back-bone every year."—*Louisville Courier-Journal.*

Brown Derby's Origin.—After all, we are largely as nature made us, and Governor Smith's smile was born with him, just as were his derby hat and his liking for children.—*Omaha Evening World-Herald.*

No Overhead.—Fizz—"They have no piano, no summer home, no fur coats, no victrola, no washing-machine, no automobiles, no radio——"

Fuzz—"Gee, they must have money."—*Life.*

Confidential Tip.—Mrs. Virgil H. Baxter, who had been confined to her bed for the past week by a painful attack of inflammatory rheumatism, will be pleased to learn that she is recovered from it.—*Deadwood paper.*

All Blown Up.—Applicant—"I want to apply for the job of bouncer."

Restaurant Owner—"What makes you think you can bounce?"

Applicant—"I was a rubber in a Turkish bath."—*The Log.*

Lively Methuselah.—Implements made by a man more than 22,000 years old have been found in France.—*Milwaukee Journal.*

Practically Given Away.—Large blue velvet Axminster carpet with boarder, $25. Mr. E. Smith, 153 York Street.—*Hamilton (Canada) paper.*

Too Fresh.—Mistress—"Haven't we always treated you like one of the family?"

Maid—"Yes, and I'm not going to stand it any more."—*Bison.*

Ornithological Note.—In many cities the crows have been poorly held in check and have been disorderly in their enthusiasm for Governor Smith.—*Chattanooga News.*

Farm Relief.—

FIND 2 SKELETONS
DIGGING ON FARM

—*Canandaigua (N. Y.) paper.*

Excused.—Indignant Parent (6 a. m.)—"Young man, what do you mean by bringing my daughter in at this hour?"

Flaming Youth—"Well, I gotta be at work by 7."—*Ranger.*

In Case of Accidents.—

ATTEND CHURCH SOMEWHERE
SAFETY FIRST!

—*Sign spotted by a* Digest *reader on a roadside near St. Louis.*

Cruelly Clubbed.—Mrs. Ellis is a member of the Baptist church and a former member of Brighthelmstone Club of Brighton. She is also afflicted with the Hampton Monday Club.—*Manchester (N. H.) Union.*

Poisoned Dagger.—"No doubt you will allow me to take my laundry with me," said the haughty lodger who had been rather delinquent in his payments.

"Certainly," replied the landlady. "Your other collar is down-stairs!"—*Christian Science Monitor.*

Warm Hospitality.—We are glad to have you worship with us to-day. Next time bring your fiends with you.—*Vallejo (Cal.) church program.*

Only members of the families and a few intimate fiends attended the wedding.—*New York Herald Tribune.*

Worth $1.80.—He—"I'm going to buy myself a harem."

It—"What do you mean? You can't buy a harem, can you?"

He—"Sure. I saw a sign at a gas station that said: 'Six Gals for a dollar.'"—*California Wampus.*

Good Old-timer.—Every time some one starts talking about the prospects of a Republican victory in North Carolina, we are reminded of the story that went the rounds when North Carolina University played Harvard several years ago:

"Boys," pleaded the Carolina coach just before his team trotted on the field, "you've got to get in there and fight for old North Carolina—and don't forget that every man on that Harvard team is a Republican."—*Detroit News.*

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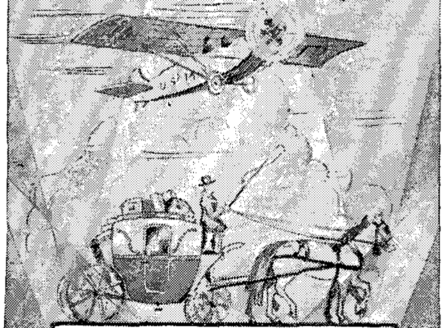

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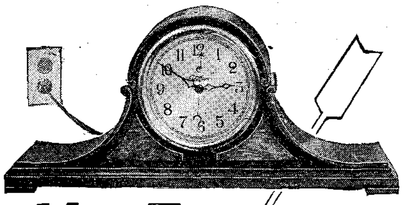

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